PREMATURE BURIAL

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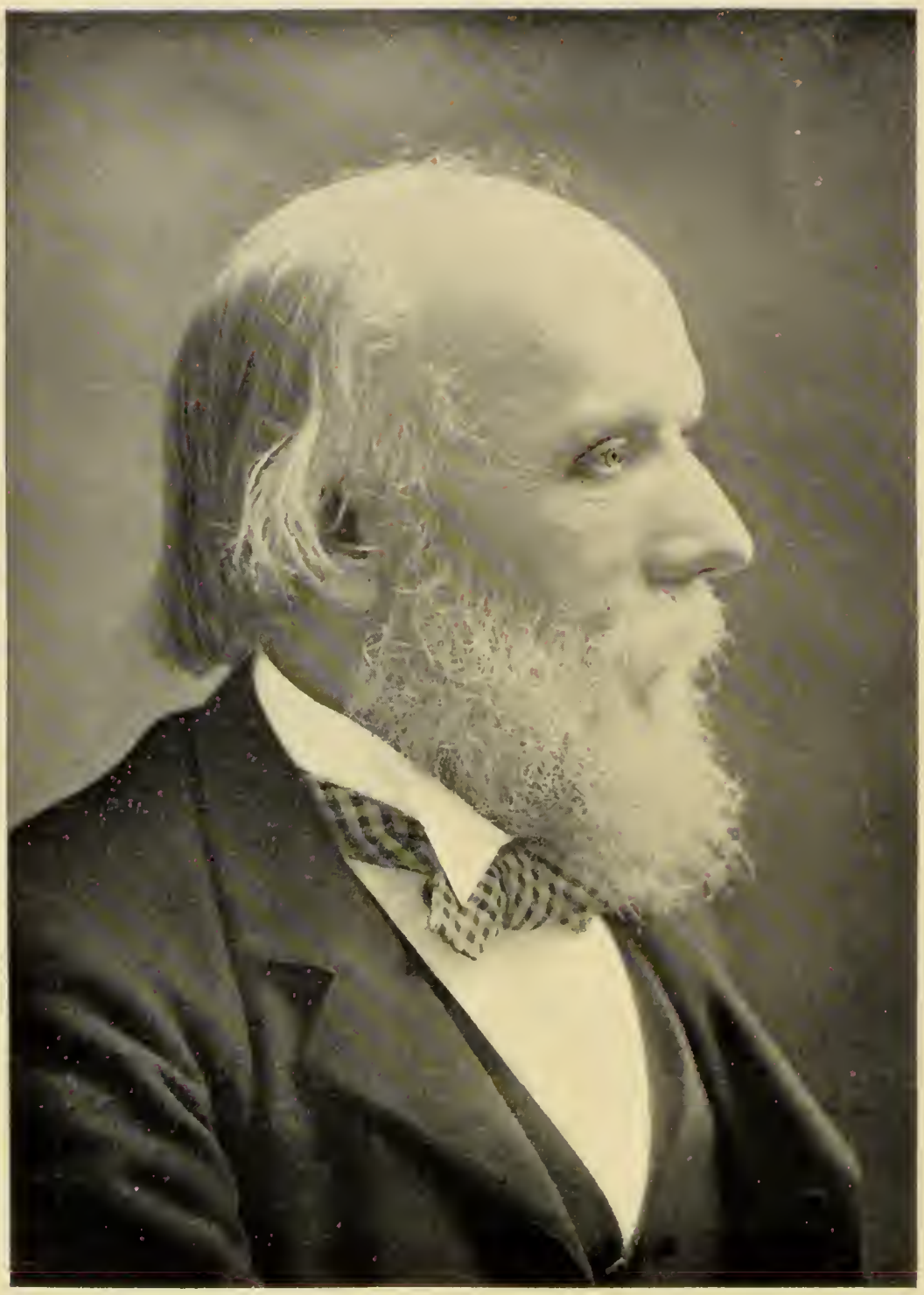
AND

HOW IT MAY BE PREVENTED.



William Webb

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PREMATURE BURIAL

AND

HOW IT MAY BE PREVENTED

WITH SPECIAL REFERENCE TO TRANCE, CATALEPSY, AND OTHER FORMS OF SUSPENDED ANIMATION

BY

WILLIAM TEBB, F.R.G.S.

Corresponding Member of the Royal Academy of Medical Sciences, Palermo; Author of "The Recrudescence of Leprosy and its Causation

AND

COL. EDWARD PERRY VOLLUM, M.D.

Late Medical Inspector, U.S. Army; Corresponding Member of the New York Academy of Sciences

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SECOND EDITION

BY

WALTER R. HADWEN, M.D.

Licentiate of the Royal College of Physicians, London; Member of the Royal College of Surgeons, England; Licentiate of the Society of Apothecaries, London

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"Such is the condition of humanity, and so uncertain is men's judgment, that they cannot determine even death itself."—PLINY.

"The indisputable signs of death, an extraordinarily difficult question."—PROF. THOMAS HENRY HUXLEY, F.R.S.

"It should never be forgotten that there is but one really trustworthy proof that death has occurred in any given instance, viz., the presence of a manifest sign of commencing decomposition."—SIR HENRY THOMPSON, F.R.C.S.

"We are obliged to acknowledge that we have no sign or group of signs sufficient to determine the moment of death with scientific certainty in all cases."—PROF. P. BROUARDEL, M.D.

"It is true that hardly any one sign of death, short of putrefaction, can be relied upon as infallible."—*British Medical Journal*, October 31, 1885, p. 841.

"The thought of suffocation in a coffin is more terrible than that of torture on the rack, or burning at the stake. Carelessness in this matter cannot be innocent; and ignorance in such a case is akin to crime. When we neglect precautions against a fate so terrible, to which every one is thus liable, our tears are little less than hypocrisy and our mourning is a mockery."—PROF ALEXANDER WILDER, M.D.

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PREFACE TO FIRST EDITION.

A DISTRESSING experience in the writer's family many years ago brought home to his mind the danger of premature burial, and led ultimately to the careful study of a gruesome subject to which he has a strong natural repugnance. His collaborator in the volume has himself passed through a state of profound suspended animation from drowning, having been laid out for dead—an experience which has induced him in like manner to investigate the various death-counterfeits. The results of the independent inquiries carried on by both of us in various parts of Europe and America, and by one of us during a sojourn in India in the early part of this year, are now laid before the reader, with such practical suggestions as it is hoped may prepare the way for bringing about certain needed reforms in our burial customs.

The danger, as I have attempted to show, is very real—to ourselves, to those most dear to us, and to the community in general; and it should be a subject of very anxious concern how this danger may be minimised or altogether prevented. The duty of taking the most effective precautions to this end is one that naturally falls to the Legislature, especially under a Government professing to regard social questions as of paramount importance. Fortunately, this is a non-party and a non-contentious question, it imperils no interest, so that no formal obstruction or unnecessary delay need be apprehended; and it should be urged upon the Government to introduce and carry an effective measure at the earliest opportunity, not only as a security against the possibility of so terrible an evil, but to quiet the widespread and not altogether unreasonable apprehension on this subject which is now so prevalent.

It has been found convenient to retain throughout the body of the work the use of the singular pronoun, but every part of the book receives the cordial approval of both authors, and with this explanation we accept its responsibility jointly.

We have to acknowledge our great indebtedness in preparing this volume to many previous writers, including such as have investigated the phenomena of suspended animation and the

signs of death, and such as, with a more practical intention have dwelt upon the danger of death-counterfeits being mistaken for the absolute extinction of life, illustrating their counsels or warnings by numerous instances. Grouping both classes of writers together, we may mention specially the names of Winslow and Bruhier, Hufeland, Struve, Marcus Herz and Köppen, Kite, Curry, and Anthony Fothergill; and, of more recent date, the names of Bouchut, Londe, Lénormand, and Gaubert (on mortuaries), Russell, Fletcher, Franz Hartmann, and Sir Benjamin Ward Richardson.

A work to which we are particularly indebted for the literature of the subject is that of the late Dr. Félix Gannal, "Mort Apparente et Mort Réelle: moyens de les distinguer." Paris, 1890. Dr. Gannal, having qualified in medicine and pharmacy, occupied himself with the business of embalming, which he inherited from his father. He employed the considerable leisure which the practice of that art left to him in compiling the above laborious work. He examined many books, pamphlets, theses, and articles, from which he cited expressions of opinion on the several points—in a lengthy form in his original edition (1868), in a condensed form in the second edition. His Bibliography is by far the most comprehensive that has been hitherto compiled. Our own Bibliography had been put together from various sources before we made use of Dr. Gannal's. It includes several titles which he does not give; while, on the other hand, it has been considerably extended beyond its original limits by transcribing titles which we have found nowhere but in his list. The Bibliography, it need hardly be said, is much more extensive than our own reading; but it seemed useful to make it as complete as possible, whether the books had been seen by us or not, so as to show in chronological order how much interest had been aroused in the subject from time to time—in one country more than another, or in various countries together. The titles of articles in journals, which belong for the most part to the more recent period, have been taken from the Index Catalogue of the Surgeon-General's Library, Washington, a few references being added to articles which have otherwise come under our notice.

W. T.

INTRODUCTION TO FIRST EDITION.

A CONCURRENCE of peculiar circumstances, beginning in May 1895, has directed public attention in England to the subject of premature burial, probably to a greater degree, so far as the author's recollection serves, than at any time during the past half-century. Amongst these may be mentioned the publication of several recent cases of premature burial in the English and American papers; the narrow escape of a child found in Regent's Park, London, laid out for dead at the Marylebone Mortuary, and afterwards restored to life; the issue in Boston, U.S., of Dr. Franz Hartmann's instructive essay, entitled, "Buried Alive: an Examination into the Occult Causes of Apparent Death, Trance, and Catalepsy" (a considerable number of copies having been sold in England), and the able leading articles and correspondence on the subject in the *Spectator*, *Daily Chronicle*, *Morning Post*, *Leeds Mercury*, *The Jewish World*, *Plymouth Mercury*, *Manchester Courier*, *To-Day*, and many other daily and weekly journals.

It is curious that, while many books and pamphlets relating to this important subject have been issued in France and Germany, no adequate and comprehensive treatise has appeared from the English press for more than sixty years past, nor writings in any form, with the exception of a paper by Sir Benjamin Ward Richardson in No. 21 of the *Asclepiad*, published in 1889, on the "Absolute Signs of Death," sundry articles in the medical journals from time to time, and a London edition of Dr. Hartmann's volume in January, 1896. The section upon "Real and Apparent Death" in the 1868 edition of the late Professor Guy's "Forensic Medicine" begins with the words, "This subject has never attracted much attention in England, and no medical author of repute has treated it at any length"—a remark not less true after the lapse of a generation. The following chapters have been prepared with the view, not so much of supplying this omission, as of guiding the public to the dangers

of our present mode of treating the apparent dead, in the hope that reforms and preventive measures may be instituted without delay in order to put an end to such unnecessary domestic tragedies.

In introducing the subject the author is aware that the great majority of the medical profession in this country are either sceptical or apathetic as to the alleged danger of living burial. Many do not believe in the existence of death-trance or death-counterfeits, and the majority of those who do believe in them declare that cases are very rare, and that if consciousness is ever restored in the grave it can only last a second or two, and that those who live in fear of such an occurrence should provide for a *post-mortem* or for the severance of the jugular vein. Many persons, on the other hand, after much careful inquiry, are of opinion that cases of premature burial are of frequent occurrence; and that the great majority of the human race (outside of a few places in Germany, where waiting mortuaries are established, or where the police regulations, such as those described in this volume as existing in Würtemburg, are efficiently and systematically carried out) are liable to this catastrophe. Important as the subject is allowed to be, and numerous as are the reported cases, no effective steps, either public or private, appear to have been taken, outside of Germany and Austria, to remedy the evil. At present a majority of the people appear content to trust to the judgment of their relations and to the ordinary certificates of death to safeguard them from so terrible a disaster. That death-certificates and death-verifications are often of a most perfunctory description, both as to the fact of death and the cause of death, has been proved by overwhelming evidence before the recent House of Commons Committee on Death-Certification. Such certificates, when obtained, may be misleading and untrustworthy; while in many cases burials take place without the doctor having either attended the patient or examined the body. Nor, in spite of the appointment of death-verificators by our neighbours across the Channel, is this important precaution effectively carried out by them. M. Devergie reports that in twenty-five thousand communes in France no verification of death takes place, although the law requires it:

and he demands that no diploma shall be given without the candidate having proved himself conversant with the signs of death. (*Medical Times*, London, 1874, vol. i., p. 25.) On personal inquiry from medical authorities in France, during the present year (1896), we learn that this laxity still prevails.

It appears strange that, except when a man dies, all his concerns are protected by custom and formalities, or guarded by laws, so as to insure his interests being fairly carried out to completion. Thus we see that heirship, marriage, business affairs of all kinds, whether of a public or private nature, are amply guarded by such precautionary and authoritative measures as will secure them. But one of the most important of all human interests—that which relates to the termination of life—is managed in such a careless and perfunctory way as to permit of irreparable mistakes. To be sure there are laws in most of the Continental States of Europe that are intended to regulate the care and burial of the dead, but few of them make it certain that the apparently dead shall not be mistaken for the really dead, and treated as such. None of them allow more than seventy-two hours before burial (some allow only thirty-six, others twenty-four, and others again much less, according to the nature of the disease), unless the attending physician petitions the authorities for reasonable delay—a rare occurrence. And even if postponement is granted, it is doubtful if the inevitable administrative formalities would leave opportunities for dubious cases to receive timely and necessary attention, or for cases of trance, catalepsy, coma, or the like, to be rescued from a living burial.

In the introduction to a treatise entitled "The Uncertainty of the Signs of Death, and the Danger of Precipitate Interments," published in 1746, the author, Mr. M. Cooper, surgeon, says:—"Though death at some time or other is the necessary and unavoidable portion of human nature, yet it is not always certain that persons taken for dead are really and irretrievably deprived of life, since it is evident from experience that many apparently dead have afterwards proved themselves alive by rising from their shrouds, their coffins, and even from their graves. It is equally certain that some persons, too soon interred after their supposed decease, have in their graves fallen victims to a death

which might otherwise have been prevented, but which they then find more cruel than that procured by the rope or the rack." The author quotes Lancisi, first physician to Pope Clement XI., who, in his treatise "De Subitaneis Mortibus," observes:—"Histories and relations are not the only proofs which convince me that many persons supposed to be dead have shown themselves alive, even when they were ready to be buried, since I am induced to such a belief from what I myself have seen; for I saw a person of distinction, now alive, recover sensation and motion when the priest was performing the funeral service over him in church."

After reporting and describing a large number of cases of premature burial, or of narrow escapes from such terrible occurrences, in which the victims of hasty diagnosis were prepared for burial, or revived during the progress of the burial service, Mr. Cooper continues:—"Now, if a multiplicity of instances evince that many have the good fortune to escape being interred alive, it is justly to be suspected that a far greater number have fallen victims to a fatal confinement in their graves. But because human nature is such a slave to prejudice, and so tied down by the fetters of custom, it is highly difficult, if not absolutely impossible, to put people on their guard against such terrible accidents, or to persuade those vested with authority to take proper measures for preventing them."

Nothing seems to have been done to remedy this serious evil; and forty-two years later Mr. Chas. Kite, a well-known practitioner, called attention to the subject in a volume entitled "The Recovery of the Apparently Dead," London, 1788. This author on p. 92, says:—"Many, various, and even opposite appearances have been supposed to indicate the total extinction of life. Formerly, a stoppage of the pulse and respiration were thought to be unequivocal signs of death; particular attention in examining the state of the heart and larger arteries, the flame of a taper, a lock of wool, or a mirror applied to the mouth or nostrils, were conceived sufficient to ascertain these points; *and great has been the number of those who have fallen untimely victims to this erroneous opinion.* Some have formed their prognostic from the livid, black, and cadaverous countenance; others from the heavy, dull, fixed, or flaccid state of the eyes; from the dilated pupil; the foaming at

the mouth and nostrils, the rigid and inflexible state of the body, jaws, or extremities; the intense and universal cold, etc. Some, conceiving any one of these symptoms as incompetent and inadequate to the purpose, have required the presence of such of them as were, in their opinion, the least liable to error; but whoever will take the trouble of reading the Reports of the (Humane) Society with attention, will meet with very many instances where all the appearances separately, and even where several associated in the same case, occurred, and yet the patient recovered; and it is therefore evident that these signs will not afford certain and unexceptionable criteria, by which we may distinguish between life and death."

Mr. Kite furnishes references to numerous cases of recovery where the apparently dead exhibited black, livid, or cadaverous countenances; eyes fixed or obscure; eyeballs diminished in size, immovable and fixed in their sockets, the cornea without lustre; eyes shrivelled; froth at the mouth; rigidity of the body, jaws, and extremities; partial or universal cold.[1]

The crux of the whole question is the uncertainty of the signs which announce the cessation of physical existence. Prizes have been offered, and prizes have been awarded, but further experience has shown that the signs and tests, sometimes singly and sometimes in combination, have been untrustworthy, and that the only certain and unfailing sign of death is decomposition.

Commenting upon actual cases of premature burial, the *Lancet*, March 17, 1866, p. 295, says:—"Truly there is something about the very notion of such a fate calculated to make one shudder, and to send a cold stream down one's spine. By such a catastrophe is not meant the sudden avalanche of earth, bricks, or stones upon the luckless miner or excavator, or the crushing, suffocative death from tumbling ruins. No; it is the cool, determined treatment of a living being as if he were dead—the rolling him in his winding sheet, the screwing him down in his coffin, the weeping at his funeral, and the final lowering of

[1] "The Recovery of the Apparently Dead," by Charles Kite, Member of the Corporation of Surgeons in London, and Surgeon at Gravesend in Kent. London, 1788.

him into the narrow grave, and piling upon his dark and box-like dungeon loads of his mother earth. The last footfall departs from the solitary churchyard, leaving the entranced sleeper behind in his hideous shell, soon to awaken to a consciousness and to a benumbed half-suffocated existence for a few minutes; or else, more horrible still, there he lies beneath the ground conscious of what has been and still is, until, by some fearful agonised struggle of the inner man at the weird phantasmagoria which has passed across his mental vision, he awakes to a bodily vivification as desperate in its torment for a brief period as has been that of his physical activity. But it is soon past. There is scarcely room to turn over in the wooden chamber; and what can avail a few shrieks and struggles of a half-stifled, cramped-up man!"

To prevent such unspeakable horrors as are here pictured, the Egyptians kept the bodies of the dead under careful supervision by the priests until satisfied that life was extinct, previous to embalming them by means of antiseptics, balsams, and odoriferous gums. The Greeks were aware of the dangers of premature burial, and cut off fingers before cremation to see whether life was extinct. In ancient Rome the recurrence of cases of premature burial had impressed the nation with the necessity for exercising the greatest caution in the treatment of the supposed dead; hasty conclusions were looked upon as criminal, the absence of breath or heat or a cadaverous appearance were regarded as uncertain tests, and the supposed dead were put into warm baths or washed with hot water, and other means of restoration adopted. Neither in the greater part of Europe nor in the United States are any such means resorted to now, except in the case of apparent death by drowning, by asphyxia, or by hanging. Premature burials and narrow escapes are of almost every-day occurrence, as the narratives in the newspapers testify; and the complaint made by a surgeon, Mr. Cooper, a hundred and fifty years ago, that the evil is perpetuated because we are slaves to prejudice, and because those vested with authority refuse to take measures for prevention, remains a serious blot upon our advanced civilisation. The *Spectator*, September 14, 1895, commenting upon this unsatisfactory state

of affairs, observes:—"Burning, drowning, even the most hideous mutilation under a railway train, is as nothing compared with burial alive. Strangely enough this universal horror seems to have produced no desire to guard against burial alive. We all fear it, and yet practically no one takes any trouble to avoid the risk of it happening in his own case, or in that of the rest of mankind. It would be the simplest thing in the world to take away all chance of burying alive; and yet the world remains indifferent, and enjoys its horror undisturbed by the hope of remedy."

The authors' own reasonings, opinions, and conclusions are here briefly presented; but as the majority of the public are more or less influenced by authority, it has been thought advisable to furnish a series of authenticated facts under the several headings to which they belong, and to cite the judgments of eminent members of the medical profession who have given special attention to the subject. The source of difficulty has been an *embarras de richesse*, or how from a mass of material, the extent of which will be seen by reference to the Bibliography, to select typical cases without needless repetition. The premature burials and narrow escapes from such disasters, which are reported by distinguished physicans and reputable writers, may be numbered literally by hundreds, and for every one reported it is obvious from the nature of the case that many are never heard of. Amongst the names of notable persons, who have thought the subject sufficiently practical for their attention, may be mentioned those of Empedocles, Plato, Aristotle, Cicero, Pliny, Celsus, Plutarch, and St. Augustine in antiquity; of Fabricius, Lancisi, Winslow, Haller, Buffon, Lavater, Moses Mendelssohn, Hufeland, and Alexander von Humboldt in modern times.

The subject has several times engaged the attention of the French Senate and Legislative Chamber, as well as the Legislative Assemblies in the various States of Germany. In 1871, Dr. Alex. Wilder, Prof. of Physiology and Physiological Science, read a paper before the members of both houses of the New York State Legislature at the Capitol, Albany; but we are not aware that the subject has ever been introduced in any of the

other State Legislatures, or in the British Parliament, or in any of the Colonial Assemblies.

In an editorial note, as far back as November 27, 1858, the *Lancet*, referring to a case of death-trance, remarked that such "examples are sufficiently mysterious in their character to call for a more careful investigation than it has hitherto been possible to accord to them." The facts disclosed in this treatise, the authors hope, may encourage qualified scientific observers to study the subject of death-trance, which, it must be admitted, has been strangely overlooked in England, though it would not be easy to mention one which more deeply concerns every individual born into the world.

In order to prevent unnecessary pain to the reader on a subject so distressing in its nature, the more sensational and horrifying cases of premature burial have been omitted. They can, however, be found in abundance in the writings of Bruhier, Köppen, Kempner, Lénormand, Bouchut, Russell Fletcher, and the Boston (U.S.) edition of Hartmann. In England and in America it is the fashion amongst medical men to maintain that the tests known to medical art are fully equal to the prevention of live burial, that the cases quoted by the newspapers are introduced for sensational purposes, and that most of them are apocryphal. The perusal of the cases recorded in this volume, and a careful consideration of the weight of cumulative evidence represented by the very full Bibliography, must satisfy the majority of reflective readers that the facts are both authentic and numerous.

PREFACE TO SECOND EDITION.

When requested by Mr. William Tebb, the talented author of "Premature Burial, and How it may be Prevented," to undertake the editorship of a second edition of this important work, for which there was an increasing demand, I felt much reluctance in complying with his wish, partly by reason of the pressure of many public and professional duties, and partly because the subject was one which had not been studied by me with the exhaustiveness it demanded.

The fact, however, that an increasing weight of years presses upon the venerable author, whom I hold in the profoundest esteem, and his anxiety to see "something accomplished, something done," ere he ceased from his labours, coupled with my appreciation of the loss he had sustained in the death of his medical collaborator, Col. Edward Perry Vollum, M.D., induced me finally to accept the honour and responsibility.

The careful study of the subject which the work has entailed, and the perusal of the evidence collected from various parts of the world, which has accumulated considerably since the first edition was published in 1896, have convinced me of the real need in this country of drastic and far-reaching reforms in connection with our burial system.

Cases occurring in the course of my own practice, and cases which had come to my notice in the practice of other medical men, have for years led me to realize the dangers to which persons are liable under our faulty method of certification. But until, by the help of Mr. Tebb's and Col. Vollum's investigations, I undertook a systematic study of the whole question, I was not aware that facts so numerous and well authenticated, and so widespread, connected with every branch of the subject, were in existence.

The loss of Dr. Vollum to the cause of Burial Reform is a real one. He was no ordinary man. For a third of a century he held high positions of trust under the United States Government, and his indomitable energy, good judgment, professional prominence, and spotless public services earned for him the respect, the confidence, and admiration of all who had the good fortune to become associated with him. His genius and energy during the great War of the Rebellion brought him into the front rank of the men of mark of his time: few of the many thousands of sufferers who profited by his remarkable system of medical organization knew at the time how much they owed to Dr. Vollum's never-tiring zeal and extraordinary skill. His fearlessness and integrity led him, as medical inspector, to make ruthless war upon soulless contractors, inefficient surgeons, neglectful

nurses, upon fraud, drunkenness, and ignorance. Even the dumb animals experienced his fostering care, and a complete revolution in the veterinary service of the United States army was the outcome of his strenuous efforts. Nothing came amiss to him—whether systematizing an ambulance service, or improving the army ration and regulating the cooking, or establishing industrial asylums for the healthful employment of army pensioners, or formulating sanitary schemes to improve the quarters and camps and health of the soldiers, or forming insurance societies for the promotion of thrift among the ranks. The name of Col. Vollum was always and everywhere synonymous with progress and reform. In addition to all the many movements he initiated and advanced, he filled, during the closing years of active service under Government, the position of Corresponding Member of the New York Academy of Sciences, as well as the highly responsible post of President of Army Medical Examining Boards.

He passed away at Munich on 31st May, 1902, his death being due to congestion of the liver. His body was cremated at Jena, and the ashes were interred at Arlington, near Washington. A memorial service was held in the capital, in the presence of a distinguished assembly.

Thus it is clear that the late Col. E. P. Vollum was

a man whose position, talents, character, and wealth of experience were such as to entitle him to command respect, and whose judgment and veracity concerning any subject he investigated were worthy of the utmost consideration.

Dr. Vollum first became interested in the important question of Premature Burial in consequence of his own very narrow escape from live sepulture, having been pronounced dead from drowning, and prepared for interment, when consciousness happily returned spontaneously. It was he who inspired Dr. Franz Hartmann to study the occult phenomena of apparent death and living burial, the results appearing in a volume of which editions have been printed in the United States, England, and Germany. On more than one occasion Col. Vollum was instrumental in rescuing persons from the most horrible imaginable of fates, in spite of the opposition and ridicule of physicians, priests, and relatives, who loudly protested against any delay in the obsequies of those whom they erroneously declared to be unmistakably dead. Numerous articles and letters from his pen appeared in English and American papers, in all of which he strongly deprecated the custom of hastily judging by appearances, maintaining that putrefactive decomposition was the only sure proof of death.

By the lamentable decease of this eminent doctor,

the London Association for the Prevention of Premature Burial has sustained irreparable loss, as was recognized by the following resolution unanimously adopted and placed upon the minutes of the society:—

"That the committee, having heard with much sorrow of the death of Colonel Edward Perry Vollum, M.D., who, by his collaboration with Mr. William Tebb in the authorship of that now well-known work, 'Premature Burial, and How it may be Prevented,' as well as in various other ways, has actively promoted the cause of the association, desires to express its deep sympathy with his family, and its sense of the great loss which the movement has sustained by his decease."

Mr. Wm. Tebb, to whose pen we are mainly indebted for the production of the first edition of this work (the greater part of which was written by him in India, in the year 1895), is still with us, watching and advising in the compilation of the new edition with all the keenness of his ardent nature in spite of advancing years.

Born in Manchester—the birthplace of many notable reformers—on the 22nd October, 1830, he was in his youth during the stirring times when Cobden, Bright, Fox, Thompson, Joseph Hume, Ebenezer Elliot, and many others, roused the masses to a sense of the injustice of the Corn Laws and the "protective system," and, catching the inspiration of these brilliant exponents of freedom and sympathy, a few years later

found him in Massachusetts, in the United States of America, in the thick of the prolonged struggle for the emancipation of four millions of slaves. He became personally acquainted with William Lloyd Garrison, the great anti-slavery apostle, with Wendell Phillips, Theodore Parker, Adin Ballou, and other leaders, and here by pen and voice assisted for several years in exposing and denouncing the shameful traffic in human flesh.

In order to pursue his investigations into the subject of the present treatise, and to obtain first-hand information calculated to assist him in the remedying of other evils, especially those associated with the spread of leprosy, Mr. Tebb has travelled in nearly every portion of the globe.

Failing health and advancing years have now compelled him to leave the more arduous work connected with the various reforms with which his name is associated, and which owe so much to his zeal and enterprise, to younger men, whose privilege it ever is to build upon the foundations laid for them by the self-sacrificing efforts of old pioneers who have stood grimly and fearlessly in early days against the odds of custom, prejudice, influence, and power.

My own work in the present volume has consisted largely in bringing the treatise as far as possible up

to date. Cases of less importance, appearing in the first edition, have had to make way for those of greater importance, and the work has been enlarged to the extent of fifty extra pages in order to accommodate new material.

The greatest care has been taken in selecting only such illustrations of the subjects dealt with as appear to be authentic, and on this account much reliance has been placed upon the evidence and statements of medical men. It is needless to say that, were all the evidence which has accumulated of late years to be printed, it would require a volume of considerably larger dimensions than the present one.

The evidence, however, which has been adduced is sufficient, both in variety and directness, to arouse the careful and thoughtful reader to a realisation of the important question which is hereby raised, and demands that prompt action be taken by the British legislature in order to guard against the repetition in this country of the many awful incidents narrated in the following pages.

WALTER R. HADWEN.

GLOUCESTER, October, 1904.

INTRODUCTION TO SECOND EDITION.

THE fact that a second edition of this work has been called for is sufficient evidence of the interest which the subject of Premature Burial has created in the public mind. There are still, however, persons who look upon anyone who seriously touches this question as a sensation-monger; but among the masses of the people of to-day, especially of the more thoughtful, there is an undercurrent of suspicion that all is not right, and it is increasingly felt that something should be, and must be, done to remove every element of doubt which may be associated with the delicate dividing line that lies between latent life and actual death.

The peculiar directions laid down by numerous testators, such as Herbert Spencer, Edmond Yates, Miss Frances Power Cobbe, Wilkie Collins, and others; the feverish search for, and advocacy of, various inventions by way of injections, of physical tests, and of "safety coffins"; and the increasing popularity of cremation, all point to the anxiety which is felt lest the horrible fate of premature burial should tragically close a life's career.

It is to be regretted that medical tradition has encouraged the idea that the possibility of burying alive is absurd. It is frequently urged, as an argument against our contention, that no such irreparable mistake as is implied therein is ever likely to be made by a medical man. That it is possible, however, for medical men to make the serious mistake of certifying as "dead" persons who are living will be amply proved in the following pages; but when it is remembered that a medical man is entitled by law to give a death-certificate without seeing the supposed dead at all, and, moreover, that this is the usual practice, it will be readily conceived that the "protection" claimed for the public does not rest upon the most substantial foundation.

It has been repeatedly stated that the numerous published instances of premature coffinment, premature burial, and narrow escapes, have never been corroborated. Some writers, with amazing assumption, have gone so far as to state that "not a single instance of premature burial has ever been substantiated by evidence such as would carry conviction to a critical mind." I ask, in reply, why is it that, of the numerous instances which have been published from time to time, any attempt at disproof has rarely, if ever, been forthcoming?

If, however, but a tithe of the hundreds of horrifying

tragedies which have been collected and recorded by many scientific and painstaking authorities are true, they form a sufficient ground for the fear that, owing to the laxity of our laws, a still larger number are consigned to the ghastliest of deaths. And when, in addition to the fact that death-certificates are usually given without any medical inspection at all, it is remembered that the Home Secretary, on the 5th of March, 1903, reported over fifty-three thousand burials during the past five years without even the formality of certifying the causes of death, the sense of security will not be by any means encouraged.

In commenting upon a Bill which has been laid before the Massachusetts Legislature for the purpose of guarding against premature burial, the *Medical Press* of April 27, 1904, describes the stringent tests of death which are therein proposed for adoption as "elaborate nonsense," and the fear of being buried alive is ridiculed by the editor as a "bogey." This is not in accordance with the views of the most eminent authorities in Europe, who have again and again declared the danger to be a real one. The late Professor Huxley, F.R.S., testified that the "sign of death was an extraordinarily difficult question," and Sir Benjamin Ward Richardson, after many years of investigation, finally stated, in the *Asclepiad*, that the

only trustworthy sign of death was "distinct indication of putrefactive decomposition."

Direct evidence as to premature burial is very difficult to obtain, as the proportion of disinterments to burials is only about one in fifty thousand; but there is sufficient evidence to show that the danger exists. Dr. Franz Hartmann, who has devoted considerable attention to this subject, states that during the months of May and June, 1896, he received no less than sixty-three letters from people who had escaped burial alive at the last moment. In all, he has collected over seven hundred cases, and furnished details of over one hundred. The *Lancet* has borne frequent testimony to these disasters; and in its issue of September 12, 1896, p. 785, is recorded the following from its Cork correspondent as having occurred at Little Island, Ireland, which, the writer says, is thoroughly vouched for:—"A child of four years of age contracted (typhoid) fever, and to all ordinary appearances died. The time of the funeral was appointed, and friends were actually on their way to attend it. When the supposed corpse was about to be removed from the bed to the coffin signs of animation were exhibited. The services of the medical man were again requisitioned, and the child, opportunely rescued from such a terrible death, is now progressing satisfactorily."

A "death" occurred in Cheltenham some years ago, of which I was informed by a lady who was in the house at the time. The funeral arrangements were in full operation, when the "corpse"—a gentleman of over seventy years of age—sat up, and lived for more than two years in the full enjoyment of his faculties, notwithstanding the fact that he had been certified dead! A gentleman of my acquaintance, living in Brussels at the present time, was, some few years ago, certified as dead by his medical attendant, laid out for dead, and was just on the point of being carried to the grave, when he gave signs of life. Instances such as these point conclusively to the dangers and the risks associated with death-counterfeits, and the necessity there is to consider seriously how such dangers and risks may be avoided.

The law protects the citizen's life, property, and every other interest up to the moment when the death scene supervenes; then it leaves him, and provides no protection whatever against mistakes which may be made at this supreme crisis. The extensive Bibliography at the close of this volume is sufficient to show that a subject which has created so much attention among the highest scientific authorities in this and other countries is one which is worthy of immediate and earnest consideration by the Legislature. Every citizen has a fundamental right to life,

and in the interests of the citizen, of his family, and of the State, the latter should protect that right by every means in its power, by guarding against its sacrifice. The *Medical Times and Hospital Gazette* of April 18, 1903, in a leading article on death-certification, has well said :—"It must be remembered, as we have more than once demonstrated, that there is a powerful and increasing body of public opinion in this country demanding some safeguard against what is believed to be the possibility of burial alive, in consequence of the present laxity of the law."

Our object is to press upon the public the urgent necessity of enactment by Parliament—That no medical certificate of death shall be accepted unless the person signing it shall have seen and carefully examined the body of the person so certified ; that such body shall not be buried until the first sign of putrefaction is apparent ; and that, in the interests of life and health, attractive waiting mortuaries, somewhat after the pattern of those erected on the Continent (described in chapter xxii. of this edition), shall be provided by every sanitary district in the kingdom.

WALTER R. HADWEN.

OPINIONS OF THE PRESS.

THE SPECTATOR (LONDON).

"An attempt to show that very great dangers exist from our neglect of basing the decision that death has taken place upon any symptom but the absolute one of putrefaction has just been made in a very interesting book, entitled 'Premature Burial.' To do this a very great number of cases of premature burial have been collected and set forth. We are shown that these cases in fact occurred, because men are apt to count as signs of death signs which are not absolute, and may only indicate suspended animation. From this the writers argue, and as we think justly, that there should be a change of the law as regards death certification, and as to the treatment of bodies before interment."

THE WESTMINSTER REVIEW.

"The work on 'Premature Burial,' by Mr. Tebb and Col. E. P. Vollum, has already attracted considerable notice, but we have not been able to notice it as early as it deserved. The subject is a painful one, and it demands more attention than has yet been give to it, though the twenty or more pages of the bibliography of the subject appended to this volume show that it has not been neglected. But from the frequency of the occurrences described, we are led to believe that people generally, and ordinary medical practitioners, do not appreciate the seriousness of the matter. Without entering into details, we hope that this book will meet with the attention it deserves, and that it may be the means of saving many people in future from that most horrible fate imaginable, known as a 'living tomb.'"

DAILY NEWS (LONDON).

"A work well worthy of serious consideration. It would seem that the Government might do worse than appoint a Royal Commission to inquire into the whole subject of such allegations."

LEEDS MERCURY.

"'Premature Burial' deals with a subject that is a real source of anxiety to a good many people, and which, to the disgrace of the legislature, is not an altogether unreasonable trouble. We are too casual in our methods of death registration; too much latitude is given to registrars of deaths, who, in the large majority of cases, receive certificates from medical men who have not actually seen

the remains of those whose deaths they certify. We must do the authors the justice to acknowledge that they have not quoted the very ghastly cases on record, but those from reliable and scientific men, who may be presumed to write without bias. Correspondence in our own columns has shown that the fear of premature burial is tolerably widespread, and if such books as this lead to the exercise of more care on the part of responsible authorities, they will have done good service. Altogether, it is a more reasonable book on this subject than one generally gets hold of."

MANCHESTER COURIER.

"In the houses of the poor the delay (between death and burial) is a cause of sorrowful inconvenience, and sometimes it is objected to on sanitary grounds. Neither of these considerations, however, can be allowed to weigh for a moment against the supreme importance of verifying the fact of death. This is a point as to which it is to be hoped there will be no giving way on the part of the conservative instincts of our people. So long as it is maintained, there can be no appreciable danger of the frightful contingency of premature inhumation."

TO-DAY.

"Unfortunately the fact is beyond dispute that many people have been buried alive, and have regained consciousness within the coffin. Enough air is buried with a man in a coffin to support life for a certain number of hours, and even beyond that air will filter through earth."

THE SCOTSMAN.

"The book sets forth, with an extensive learning in the literature of its subject (of which it gives a full bibliography), a number of cases of live sepulture, and uses them as the basis of an argument for legislation to establish waiting mortuaries, and take other precautions against such interments. The book will prove useful to anyone interested in its subject.

NEWCASTLE CHRONICLE.

"Society is indebted to the authors for a scientific and temperately written treatise, in which the more sensational and horrifying cases are avoided, with the view of sparing the reader unnecessary pain. There can be no question that the sooner this subject is actively dealt with the better for the community."

HOMŒOPATHIC WORLD.

"An important work containing a vast amount of unimpeachable evidence to show that a very real danger exists, and that strong measures ought to be taken to safeguard the public against it."

PALL MALL GAZETTE.

"Horrible as are some of the details, they enforce the authors' plea for more careful examination of the presumably dead, and their arguments have great force."

LIVERPOOL POST.

"The moral of the book is that burial alive is a far greater danger than most people suppose."

BIRMINGHAM DAILY GAZETTE.

"That there is real danger in hurried interments, no one who glances at this volume can doubt, and the authors' contention that the subject of the book should be legislated upon is reasonable. The book is greatly enhanced in value by an exhaustive bibliography and an excellent index."

BRISTOL TIMES.

"The whole subject is exhaustively treated in this volume, which people interested would do well to give their careful perusal. It is extremely well done."

SHEFFIELD TELEGRAPH.

"A valuable and interesting volume."

BELFAST NEWS LETTER.

"The work sets forth some very convincing statements, and has fully justified the authors in presenting their joint opinion on a subject that ought to concern the community. They adduce quite a plethora of evidence to sustain their contention."

THE CHRISTIAN WORLD.

"An elaborate treatise touching every side of this subject bears the signatures of William Tebb, F.R.G.S., and Colonel Edward Perry Vollum, M.D., both of whom have had personal experiences of a kind that leads them to think that many people are daily buried alive. The uncertainty of the signs of death is dealt with at great length, and historical and contemporaneous cases of recovery from apparent death are cited."

THE LITERARY WORLD (LONDON).

"The subject of premature burial is one of universal interest, and those who have it at heart cannot do better than make themselves as familiar with the subject as the exhaustive work before us admits. The writers have brought together a mass of facts and figures bearing on the question, and their conclusions are not to be denied or their labour undervalued. *The book may strike a chord of interest, and arrest an attention that will be the means of a thorough reconsideration of our burial customs.*"

THE TWO WORLDS (MANCHESTER).

"As the study of these counterfeits of death forms no part of the ordinary medical curriculum, it is no great wonder that these fatal and terrible mistakes do occur. The subject is one of deep and vital interest to the whole community."

DAILY CHRONICLE.

"There is no doubt that the law should require a certificate from the doctor, not only that he had attended the patient in his last illness, and that he was suffering from a disease likely to cause death, but that he (the doctor) had also inspected the body and had satisfied himself of the fact that death had actually occurred."

PLYMOUTH MORNING NEWS.

"The book is calculated to arouse public interest in an important but much neglected subject, and it will be well for it to receive that attention to which the gravity of the question entitles it."

THE HOSPITAL (LONDON).

"The book is nicely got up, and is of a popular readable character."

THE BRITISH WEEKLY (LONDON).

"An able and elaborate monograph, which it treats in the most thorough and exhaustive fashion, with innumerable references and a bibliography of the whole subject in many tongues. It is simply horrifying to learn that the risk of being buried alive is quite real, and considerably greater than ordinary persons imagine."

THE COUNCILLOR AND GUARDIAN (LONDON).

"No one with an open mind could read the volume without coming to the conclusion that the authors had succeeded in establishing a very strong case."

THE HERALD OF HEALTH (LONDON).

"The subject of this book is of deep and universal interest, and should be specially so to all who are concerned with our physical well-being and the preservation of healthy human life to the utmost limit that nature permits. Indeed, its importance is generally recognised in the abstract; but little is done or attempted to give practical effect to this recognition. No doubt this is mainly due to ignorance or inadvertence, and to the fallacy too often fostered by medical authority that the risk, if any, is so utterly insignificant that practically it may be disregarded as of no moment and need not be taken into account. As a matter of fact, however, the writers have clearly shown by reference to well-authenticated instances that such cases are not so infrequent as is generally supposed. Indeed, the newspapers of the day give abundant examples of those who have

narrowly escaped this ghastly fate, and it is much to be feared that its fatal completion is still more common. The authors of this book appear each to have pursued a separate line of investigation; the one was led to it from the circumstance that a relative was believed to be the subject of premature burial, and the other from having himself been laid out for dead, and having but narrowly escaped that terrible catastrophe against which he now raises his warning voice. The subject under consideration has of late been much debated in the newspapers, but the interest in it is by no means of recent origin, as is shown by the bibliography appended to this volume, the titles of books and pamphlets on the subject alone, as there given, occupying no less than twenty-five pages; but it may well be doubted if it has ever before received such systematic searching and thorough treatment as in the present work.

"Fortunately, this is no class or party question, no vested interest is threatened, and the time appears singularly opportune for prompt and effective legislation to allay widespread popular apprehension, which, unchecked, might become a panic."

HEALTH.

"Of all the various forms of suspended animation and apparent death, trance and catalepsy are the least understood and the most likely to lead the subject of them to a premature burial, and to these the authors have devoted considerable attention, and other interesting chapters deal with the questions of animal and so-called human hibernation, premature burial, probable causes of premature burial, predisposing causes and conditions of death-counterfeits, the danger of hasty burials, the signs of death, the duration of death counterfeits, death certification, the Jewish practice of early burial, etc.

"In order to prevent unnecessary pain to the reader on a subject so distressing in its nature, the more sensational cases of premature burial have been omitted, but these can be found in abundance in the writings of Bruhier, Köppen, Kempner, Lenormand, Bouchut, Russell Fletcher, and others."

THE WEEKLY TIMES AND ECHO.

"'Premature Burial' deserves careful perusal and serious consideration. We fully believe the medical profession are blind, as a rule, to the necessity for greater care in the giving of death certificates, and that the danger of burying people who have not really died is a growing and ghastly one. The numerous cases recorded in this volume must convince any unbiassed reader that this is the case."

THE HUMANITARIAN.

"This book is a substantial well-printed octavo volume of four hundred pages divided into twenty-two chapters, each dealing with some particular phase of the general subject, such as trance, catalepsy, premature burial, narrow escapes from premature burial, predisposing causes and conditions of death counterfeits, the danger

of hasty burials, death certificates, and suggestions for prevention. The authors tell us that the work has been prepared with the view to guiding the public to the dangers of our present mode of treating the apparently dead, in the hope that reforms and preventive measures may be instituted without delay in order to put an end to such unnecessary domestic tragedies.

"There are also six appendices and a valuable bibliography. Although attention has of late been largely directed to this question by discussions in the press, and considerable interest in it has been revived, probably many will be surprised to find that the question raised is by no means of recent origin, and that those who have written upon it have not been a few alarmists and faddists, but in many cases men of the highest reputation and scientific attainment.

"Notwithstanding the number of books mentioned in the bibliography appended to this volume, there can be no doubt that this is the most valuable and important contribution to the literature of the subject in the English language which has yet appeared; it may not be such attractive reading as the fashionable novel, and some of its details may appear gruesome, but its importance can hardly be over-estimated.

"The book is thoroughly scientific in its spirit and its treatment of the question; it is temperately written, and its bibliography a monument of careful and laborious research, its exact reference to the numerous authorities quoted makes it not only valuable as a useful book for present reading but for future reference. We cordially commend it, and have no doubt that it will be largely instrumental in attaining the laudable object for which it has been written."

WESTERN MAIL (CARDIFF).

"Though attempts have been made in certain quarters to pooh-pooh the subject, no one who reads this work can doubt that burial alive is by no means an uncommon occurrence. *There is ample reason for the appearance of the book.*"

BIRKENHEAD NEWS.

"*A priori*, one would think that it is easy enough to tell when a man is dead, or at least for the qualified medical man to do so. But in view of the lamentable mistakes that are on record, one comes to the conclusion that there are instances where it is very difficult, if not impossible for *anyone* to say for certain that life is extinct. Time alone will show."

THE INDIAN SPECTATOR (BOMBAY).

"There are few things that serve to inspire in men's minds greater terror than the idea of being buried alive. The authors cite a number of cases to show that the ceasing of the principle of life to manifest its activity in a human body is no proof of actual death. After presenting convincing proofs of the accuracy and frequency of such cases, they proceed to formulate methods by which the cruel practices should be discouraged for the future."

SATURDAY REVIEW.

"Many of the points to which they (the authors) draw attention, the perfunctory fashion, for instance, in which death certificates are made out, are worthy of earnest consideration."

LIGHT.

"We are glad to see that Mr. Tebb and Dr. Vollum's important work on 'Premature Burial and how it may be Prevented' is attracting considerable attention. The book has special reference to trance, catalepsy, and other forms of suspended animation, and is therefore of peculiar interest to us. It is not at all necessary to attempt to work up feeling on the subject, and the writers of this book avoid it. They are practical men, and understand how to let facts speak for themselves. The larger half of the book deals with the danger; and here the demonstration is complete. A discussion of remedies follows, the one most relied upon being mortuaries, the structure and management of which are carefully described. These, say our authors, 'ought to be provided, as far as practicable, in every parish, and certainly in every Sanitary District in the United Kingdom, and by the Boards of Health in the United States, and adapted to the requirements of the population.' We entirely agree. This is *the* remedy, as anyone would see who would carefully read Chapter XXI. of this helpful book, a chapter which ought to be printed separately and well distributed to county and parish councils."

MEDICAL TIMES AND HOSPITAL GAZETTE.

"This book is essentially practical, well written, free from dryness or redundancy. Though it does not profess to establish an absolute method of guaranteeing us all from the horrors of premature interment, still it teems with so much practical information on the subject that our boasted modern sanitary science must be poor indeed if it learns naught therefrom. We agree with its implication that from an over-worked and not over-practical Parliament little amelioration is at present to be hoped for, but that assuredly private initiative in these days of philanthropic associations ought to supplement this. And no better step can be taken in that direction than by promoting the circulation and careful perusal of the most able work we have yet encountered on this all-important subject."

THE EXAMINER (CEYLON).

"One of the authors visited Ceylon, at the beginning of this year, and cites facts from the customs in vogue in this island to show that there is absolutely no security against premature burial, with the names of various authorities. Some sensible and practical suggestions are made to prepare the way for bringing about certain needed reforms."

MEDICAL RECORD (NEW YORK).

"The pages are replete with instructive though at times gruesome details, and the subject is one of such vast importance that it would

be well for all medical men who are not already familiar with its literature to read the book and remember the lesson it teaches. Anything must be welcome which will tend to remove the senseless fear of the dead, and prevent friends from deserting the bedside the moment life is supposed to be extinct, giving over the body to those who will immediately take steps to complete the extinction rather than to fan back into life any spark of vitality which may remain in a doubtful case."

NEW YORK HERALD.

"An exhaustive treatise into the causes of premature burial and on the methods of preventing this terrible danger, which is likely to attract general attention. There is something about the mere idea of being buried alive which causes one to shudder, and when specialists affirm that the number of cases of premature burial are numbered by thousands, the question becomes one which appeals to the sympathy and co-operation of the community at large."

BOSTON (U.S.) HERALD.

"The authors have examined into the causes of suspended animation, and studied the literature on the subject. They furnish proofs to show that many people are buried alive in all countries not protected by laws. The present serious discussion should open people's eyes to a real danger."

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PREMATURE BURIAL,

AND

HOW IT MAY BE PREVENTED.

SOME FORMS OF SUSPENDED ANIMATION.

CHAPTER I.

TRANCE.

Of all the various forms of suspended animation and apparent death, trance and catalepsy are the least understood, and the most likely to lead the subject of them to premature burial; the laws which control them have perplexed pathologists in all ages, and appear to be as insoluble as those which govern life itself.

Its Nature and Symptoms.

In an interesting article upon the subject by A. T. Myers, M.A., M.D., M.R.C.P., which appears in "Fowler's Dictionary of Practical Medicine," the writer says:—"Trance, in the ordinary sense, is a term of somewhat vague limits, but had best, perhaps, be confined to a prolonged and rare condition of abnormal sleep, which is produced by no known external agency, is generally

entirely passive, in which the vital functions are reduced to an abnormally low minimum, and from which the entranced patients cannot be aroused by such ordinary excitants as would be more than sufficient to wake them from normal sleep. They can assimilate food artificially given, and may remain in this trance condition for as long as twenty-three weeks (Gairdner), or even for a year (P. Richer). . . . There is an absence, complete or incomplete, of sensation, and, in a less degree, of motion; and of deep and superficial muscular reflexes. The breathing becomes nearly imperceptible, it may even be impossible to see any cloud on a clear mirror held before the mouth; the respiratory movements may be imperceptible, or at least so infrequent as three in two minutes, the pulse and the action of the heart may be impalpable, though the condition of the retina will show that very slow circulation is still being kept up. The temperature is low, but has not been observed below 97° F."

Its Variations and Dangers.

In Fagge & Pye Smith's Text-book of Medicine, 4th edition, vol. i., p. 972, the authors, commenting upon the symptoms as described above, remark:—"These are the cases which have led to the popular belief that death is sometimes only apparent, and that there may be a danger of persons being buried alive; and it cannot be denied that a patient in such a condition may easily be allowed to die by careless or ignorant attendants, or might be buried before death." Dr. Herbert Mayo, in "Letters on Truths contained in Popular Superstitions," p. 34, after detailing similar signs and symptoms, asserts:—"There has occurred every shade of this condition that

can be imagined, between the occasional slight manifestations of suspension of one or other of the vital functions, and their entire disparition." He adds:—"In any form of disease where the body is brought into a certain state of debility, death-trance may supervene."

Macnish, who says the function of the heart must go on, and even of the lungs, however slightly, declares:—"No affection to which the animal frame is subject, is more remarkable than this. . . . There is such an apparent extinction of every faculty essential to life, that it is inconceivable how existence should go on during the continuance of the fit."—(Philosophy of Sleep, Glasgow, 1834, pp. 225-6.)

In "Quain's Dictionary of Medicine," 1902, Dr. W. R. Gowers says:—"The mental functions seem in most cases to be in complete abeyance. No manifestation of consciousness can be observed or elicited by the most powerful cutaneous stimulation, and on recovery no recollection of the state is preserved; but in some cases volition only is lost, and the patient is aware of all that passes, although unable to give the slightest evidence of consciousness."

"In the cases in which the depression of the vital functions reaches an extreme degree, the patient appears dead to casual, and sometimes to careful, observation. This condition has been termed 'death-trance' (Scheintod). Persons have certainly been buried in this state; and during the recent epidemic of influenza, an Italian narrowly escaped interment during the consequent trance."

Dr. Gowers quotes a well-authenticated case mentioned by Mr. John Chippendale, F.R.C.S., in the *Lancet*, 1889, vol. i., p. 1,173, of a man, who during an illness was

seized with trance, and who yet, whilst lying in "cold abstraction," was aware of all that was passing. At last, as he was about to be covered in his coffin, his mental condition was such, that he broke into a profuse sweat, which was fortunately perceived, and he recovered, and was able to recount his experiences.

He further mentions a case, observed by Rosenthal, where, thirty hours after supposed death, the muscles were still excitable, and in forty hours the patient awoke.

Dr. Mason Good, in "Standard of Medicine," vol. v., p. 61-8, relates a case of "death-trance," in which a patient was fortunate enough to have her interment postponed in order to allow a *post mortem* (!) examination to be made. On being submitted to the scalpel, the first touch brought her to her senses, and threw her into a state of violent agitation, the anatomist being almost as frightened as herself.

Conditions Influencing Trance.

Hufeland says in his "Uncertainty of Death":—"It often happens that a person is buried in a trance, knowing all the preparations for the interment, and this affects him so much that it prolongs the trance by its depressing influence. How long can a man exist in a state of trance? Is there no sign by which the remaining spark of life may be recognised? Do no means exist to prevent awakening in the grave? Nothing can be said as to its duration; but we do know that differences in the cause and circumstances will cause a difference in duration. The amount of strength of the person would have great effect in this. Weak persons, broken down by excesses, would die sooner than the strong.

The nature of the disease would make a difference. Old age is less liable to trance than the young. Long sickness destroys the sources of life, and shortens the process of death. Sorrow and trouble, and numerous diseases, seem to bring on death; yet ofttimes the source of life in them exists to its full extent, and what seems in them to be death may be only a fainting fit, or cramp, which temporarily interrupts the action of life. Women are more liable to trance than men; most cases have happened in them. Trance may exist in the new-born; give them time, and many of them revive. The smell of the earth is at times sufficient to wake up a case of trance. Six or seven days, or longer, are often required to restore such cases." (Extracted from pp. 10-24.)

Notable Instances.

Many notable persons have at one time or another been subject to this disorder. Speaking of Benjamin Disraeli, Mr. J. Fitzgerald Molloy, in his "Life of the Gorgeous Lady Blessington," vol. xi., pp. 37-38, says that in his youth he was seized with fits of giddiness during which the world would swing round him; he became abstracted and once fell into a trance, from which he did not recover for a week.

The mother of General Lee, the well-known Confederate General in the American Civil War, was subject to trance seizures, and on one occasion was pronounced dead by the physician, and "buried." Whilst, however, the sexton was filling in the grave, he heard loud crying and knocking, and Mrs. Lee was rescued from her perilous position and a horrible fate.

A romantic but true story attaches to Mount Edg-

cumbe. In the church which adjoins the estate, the grandmother of the present earl was buried alive. In a trance she was laid for dead in the family vault. It was known that upon one of her fingers was a precious ring. The sexton went at dead of night, and endeavoured to force the trinket from the lady's hand. It aroused her, and she sat up. The man fled in terror, leaving the doors of the vault and church open. Lady Mount Edgcumbe walked to her house in her shroud. Upon being received by her husband she fainted. When she revived, she found herself in bed, dressed in her ordinary sleeping attire. She was induced to believe that she had been the victim of a hideous nightmare, and never knew the real circumstances.

The late Madame Blavatsky was subject to death-like trances, and Dr. Franz Hartmann informs me that she would have been buried alive if Colonel Olcott had not telegraphed to let her have time to awaken.

Schwartz, the first eminent Indian missionary, was roused from his supposed death by hearing his favourite hymn sung over him previous to the last rites being performed, and his resuscitation was made known by his joining in the verse.

Remarkable Case of Lethargic Stupor.

The *Lancet*, of December 22, 1883, pp. 1078-80, contains particulars from the pen of W. T. Gairdner, M.D., L.L.D., etc., Professor of Medicine in the University of Glasgow, of a remarkable case of trance, extending continuously over more than twenty-three weeks, which attracted a considerable amount of notoriety at the time, and led to an extensive discussion. In his

comments upon the case, the author continues in the issue of January 5, 1884, pp. 5-6:—"The peculiar interest of the present case is that it is altogether devoid of . . . romantic incidents. The patient is a mother of a family, and has lived a strictly domestic and (up to a short time before her seizure) healthy and regular life. There is no history of inveterate hysteria, or of long continued rapt contemplation; nor has there been the slightest evidence of any craving after notoriety, either before the attack, or since its termination. The moral atmosphere, in short, surrounding the phenomena, is altogether unfavourable to exaggeration and imposture, for which, indeed, no reasonable motive can be assigned. Nevertheless, under these very commonplace conditions, concurring with some degree of melancholy or mental despondency after delivery, but, during a convalescence otherwise normal, Mrs. M'I—— presents to our notice a condition of suspended consciousness and disordered innervation in no degree less extreme than the "trances" or cataleptic attacks which have been recorded as the result of the most aggravated hysteria, or as the miracles of religious ecstacy and profound mental emotion. She becomes, for the long period of over a hundred and sixty days continuously, an almost mindless automaton, connected with the external world only through a few insignificant reflexes, and through the organic functions. She is absolutely passive as regards everything that demands spontaneous movement, and betrays almost no sign of sensation, general or special, when subjected to the several tests that can be applied short of physical injury."

In further notes upon the case in the *Lancet*, of January 12, 1884, p. 58, Professor Gairdner cites the case of a

woman of small stature, and weak mental capacity, aged 27, who, when under the care of Dr. Langdon Down, at the London Hospital, became suddenly somnolent, and had to be fed by nutrient enemata for three weeks, and for some days by a tube forced through the nostrils into the stomach. Dr. Langdon Down furnished him with the following interesting particulars.

"My patient, who was in a state of trance, recovered somewhat suddenly after about four weeks, and left the hospital. The first indication of returning consciousness was observed when I was reading to my class at her bedside one of the numerous letters that I had received entreating me not to have her buried until something which the writers recommended had been done. The paragraph of the *Medical Journal* got into some Welsh paper, and then went the round of the provincial press; hence the number of letters I received. This special one was from an old gentleman of 84 years, who, when he was 24, was thought to be dead, and whose friends had assembled to follow him to the grave, when he heard the undertaker say:—'Would anyone like to see the corpse before I screw him down?' The undertaker at the same time moved the head a little, and struck it against the coffin, on which he aroused, and sat up. On reading this aloud a visible smile passed over the face of my patient, and she returned to obvious consciousness soon after. She has not come under observation since she left the hospital."

A Physician's Personal Experience.

Thomas More Madden, M.D., F.R.C.S. (Edin.), in an article on "Death's Counterfeit" in the *Medical Press*

and Circular, vol. i., April 27, 1887, pp. 386-8, relates the following cases of "*so-called hysteric trance*":—

"A young lady, Miss R——, apparently in perfect health, went to her room after luncheon to make some change in her dress. A few minutes afterwards she was found lying on her bed in a profound sleep, from which she could not be awakened. When I first saw her twenty-four hours later, she was sleeping tranquilly, the decubitus being dorsal, respiration scarcely perceptible, pulse seventy, and extremely small; her face was pallid, lips motionless, and the extremities very cold. At this moment, so death-like was her aspect, that a casual observer might have doubted the possibility of the vital spark still lingering in that apparently inanimate frame, on which no external stimulus seemed to produce any sensorial impression, with the exception that the pupils were normal and responded to light. Sinapisms were applied over the heart and the legs, where they were left on until vesication was occasioned without causing any evidence of pain. Faradisation was also resorted to without effect. In this state she remained from the evening of December 31st until the afternoon of January 3rd, when the pulse became completely imperceptible; the surface of the body was icy cold, the respiratory movements apparently ceased, and her condition was to all outward appearance undistinguishable from death. Under the influence of repeated hypodermic injections of sulphuric ether and other remedies, however, she rallied somewhat, and her pulse and temperature improved. But she still slept on until the morning of the 9th, when she suddenly woke up, and to the great astonishment of those about her, called for her clothes,

which had been removed from their ordinary place, and wanted to come down to breakfast, without the least consciousness of what had occurred. Her recovery, I may add, was rapid and complete.

"The next case of lethargy that came under my notice was that of a boy, who, after an attack of fever, fell into a state of complete lethargic coma, in which he lay insensible between life and death for forty-seven days, and ultimately recovered perfectly.

"In a third instance of the same kind, in a lady under my care, the patient, after a lethargic sleep of twenty-seven days, recovered consciousness for a few hours, and then relapsed into her former comatose condition, in which she died.

"The fourth case of lethargy which I have seen was, like the first, a case of trance, which lasted for seventy hours, during which the flickering vital spark was only preserved from extinction by the involuntary action of the spinal and nervous centres. In this instance the patient finally recovered.

"The fifth and last instance of profound lethargy that has come within my own observation occurred last autumn, in the Mater Misericordiæ Hospital, in a young woman. . . . . In that instance, despite all that medical skill could suggest, or unremitting attention could do, it was found impossible to arouse the patient from the apparently hysterical lethargic sleep in which she ultimately sank and died."

I have referred to the foregoing cases occurring in one physician's experience, as disproving the general opinion that lethargy or trance is so rarely met with as to be of little medical importance. For my own part, I have no

doubt that these conditions are of far more frequent occurrence than is generally supposed. Moreover, I have had reason to know that death is occasionally so exactly thus counterfeited that there is good cause for fearing the probability of living interment in some cases of hasty burial.

Extracts from Medical Literature.

Dr. Madden observes concerning "Death-Trance":—"Although the majority of cases in which persons in this condition are said to have been consigned to the horrors of a living tomb have even less vraisemblance than the tale which Edgar Poe founded on the same topic, still there can be no doubt of the actual occurrence of such a calamity in some well authenticated instances."

The above medical writer has made an exhaustive collection of remarkable cases of trance from the pages of medical literature. For instance, he quotes a case from "Philosophical Transactions" as far back as 1694, of a man aged 25, who slept for nearly a month. Two years later he again fell into lethargy, and at first ate, drank, etc., though unconsciously, but at length ceased doing so altogether, and continued to hibernate for seventeen weeks. In August he fell asleep again, and did not wake until November.

Another case, recorded in the 8th volume of "The Transactions of the Royal Society of Edinburgh," is of a girl who slept uninterruptedly from the 1st of July until the 1st of August.

And a still further case, noticed by Dr. Cooke in his "Treatise on Nervous Diseases," is that of a young lady who was for some time subject to repeated

attacks of lethargy varying in duration from thirty to sixty-three hours without seeming to have suffered from want of food or otherwise. In the early part of the disease various means were employed without the smallest advantage, save that, whilst under the influence of mercury, which produced a very severe salivation, she was free from the complaint, and at length she became deranged.

Diembroeck narrates the story of a rustic who was supposed to have died of the plague, and was laid out for interment three days before he could be carried to the grave. When in the act of being buried, he showed signs of life, recovered, and lived for many years.

Dr. Alexander Wilder writing upon this subject says: —"I have a letter from Dr. Anna E. Park, 367 West Twenty-third Street, New York City, in which she states that she herself had been three times in danger of being buried alive."

The Human Dormouse.

The remarkable case of Marguerite Bozenval, "The Dormouse of Menelles," caused a great sensation for many years. The Paris correspondent of the *Morning Leader*, in a communication dated February 1, 1903, drew attention to the case, and on the 29th of May her death was reported in the same journal. She had been in a trance for 20 years. In 1883, when a girl of 21, she had a child; and her companion, as a joke, told her one day soon afterwards, that the police had come to arrest her. She instantly became unconscious, and, until a day or two before her death, she was never aroused from her unconscious condition. Her mouth and eyes were always closed, but she was fed by a tube which

was inserted in her mouth, after the doctors had broken a tooth for the purpose. Dr. Charlier had attended her all the 20 years, and the first sign of dawning consciousness was in February, when her medical attendant had to open an abscess, and she started involuntarily. The day before her death, after a violent twitching of the limbs, she momentarily opened her eyes, flinched when the doctor pinched her, and subsequently asked after her grandfather who had been dead many years. She did not recognise her mother, and thought her cousin was her sister. The effort to speak and rouse herself seemed more than the enfeebled frame could bear, and she ceased to breathe at nine o'clock in the morning.

A Long Sleep from Fright.

Science Siftings, June 20, 1903, says:—Marie Daskalaki, a pretty girl of seventeen, is the object of a popular subscription of money to take her to Paris from Athens in the hope of getting her awakened from a sleep that has lasted for months. The history of the case is unique. The girl suffered from a chest affection, and being absolutely destitute, was given a bed in the hospital, where, when near recovery, she was so frightened by seeing a woman dying in the next bed that she lost consciousness and has now been sleeping for five months and a half. She has since been removed to her parents' house, and awakes every five or six days, but falls to sleep again almost immediately. She scarcely eats anything, sleeps with her eyes open, and appears not to hear anything. She is, however, very sensible in her waking moments, but at the slightest sound falls back unconscious.

Further Testimonies.

The Chief Constable of Hereford, in a letter to Miss Lechmere, 8 December, 1902, mentions a case of a girl named Sarah Ann Dobbins, aged 11 years, of 27 Blue School Street, Hereford, who died on the 12th of August, 1879, after being in a state of trance for three weeks. The body was arranged after the manner of all corpses, and the door of the room locked for the night. In the morning the child wore precisely the same appearance of death; two young ladies, a Miss Cook and a Miss Bethel, called about ten o'clock to see the body, and it was then discovered that it had moved. Dr. Smith was called in, and the girl recovered. Fourteen years later, when she was 25 years old, she committed suicide by drowning herself in the river Wye.

The following case appeared in the *Middlesborough Daily Gazette*, February 9, 1896, and in a number of English papers :—

"The young Dutch maiden, Maria Cvetskens, who now lies asleep at Stevensworth, has beaten the record in the annals of somnolence. At the beginning of last month she had been asleep for nearly three hundred days. The doctors, who visit her in great numbers, are agreed that there is no deception in the case. Her parents are of excellent repute, and it has never occurred to them to make any financial profit out of the abnormal state of their daughter. As to the cause of the prolonged sleep, the doctors differ."

Page after page might be filled with similar instances of these strange death counterfeits, which have led not only to the horrible condition of being laid out for interment, but in not a few well authenticated instances, to premature burial. Alas, only a limited number of the

latter instances are known, but those which have come to light by the disturbances of old graveyards, and judicial enquiries, afford sufficient ground for the suggestion that many ugly secrets are locked up underground. We can but select a few cases out of the wealth of material at our disposal, and just those which appear to be trustworthy.

Fatal Mistakes.

Cases like the following which appeared in the *London Echo*, of January 29, 1901, are sufficient to arouse alarm in any sensitive nature. This journal reports that "some workmen, opening a vault at Ghent yesterday, were horrified to discover the body of a young girl lying across the steps leading down into the vault. She was quite dead, and had evidently been buried in a trance."

A correspondent in *Spare Moments* recalls the premature burial in April, 1895, of Ovidio Rossi, Italian Consul at Constantinople, whose body was afterwards found turned over face downwards, with legs twisted and hands contracted, and fists full of hair (see *Figaro* and *Petit Journal*, April 30, 1895); also the fortunate prevention of it at the last moment, in the recent case in Varna, where the wife of the wealthy Russian merchant Ulyanon, had been medically certified, and was on the point of being disposed of, as dead, but who at the date of the last report, three weeks after the day fixed for the burial, had not shown the slightest sign of decomposition.

The *Hereford Times* of November 16, 1901, reprints the following case from Pauillac. A Madame Bobin arrived there on board the steamer "La Plata," from

Senegal. She was supposed to be suffering from yellow fever, and was transferred to the Lazaret by order of the officer of health. There she became worse, and apparently died. The body became rigid, and the face ashen and corpse-like, and in that condition she was buried. The nurse, however, had noticed that the body was not cold, and that there was tremulousness of the muscles of the abdomen, and expressed the opinion that Madame Bobin was prematurely buried. On this being reported to Madame Bobin's father, he had the body exhumed, when it was found that a child had been born in the coffin. The autopsy showed also that Madame Bobin had not contracted yellow fever, and had died from asphyxiation in the coffin. A suit was begun against the health officers and the prefect, which resulted in a verdict for £8,000 damages against them.

CHAPTER II.

CATALEPSY.

CATALEPSY differs in some of its characteristics from trance, but the one is often mistaken for the other. It is not so much a disease as a symptom of certain nervous disorders, to which women and children are more particularly liable. Catalepsy can be produced artificially by hypnotism. Like trance, it has often been mistaken for death, and its subjects buried alive. In the religious epidemics of the Anabaptists in 1686, and of the Calvinists of St. Medard in 1731, catalepsy appears to have been a contagious disorder induced by involuntary imitation.

A REMINISCENCE BY THE EDITOR.

I had a striking case in my own practice in 1895. I was sent for in the early hours of the morning to see a young girl of seventeen, who had spent practically the whole of the previous day in Wells Cathedral listening to the music and singing in some special services, driving afterwards some fifteen miles across country to the Somersetshire village where she lived. On arrival at the house I was informed by the weeping relatives that I was too late; she was dead. The poor girl had fallen in a swoon, whilst sitting in a chair, soon after arrival home, and though every effort had been made to rouse her they all proved ineffectual; even then I heard her distracted friends shouting her name in her ears without effect.

I found the patient lying with closed eyes, pale and corpse-like, upon the bed; breathing was practically imperceptible; and the pulse, scarcely distinguishable, was nevertheless small and rapid. I had lifted the wrist from the bed in order to examine the pulse, and was struck by the fact that upon releasing it the forearm remained suspended and continued in a state of suspension for some considerable time. I then put other limbs in various positions, placed the body in absurd postures, when, to the amazement of the onlookers, such positions were maintained, and apparently would have been maintained indefinitely had I not restored the decubitus. She remained in this condition six days; her friends, one and all, failed in their efforts to arouse her, or to gain any response to their calls. Urine and fæces passed involuntarily. She lived four miles from my residence, and therefore I could only see her morning and evening; and a strange fact was that although her relatives could make no impression upon her senses, I could, by speaking to her in a commanding voice, get her to swallow milk from a feeding cup. The cataleptic condition continued throughout; the arms and legs would remain in the most tiring positions in which I could place them for far longer periods than they could possibly have been sustained in health.

At the close of the sixth day profuse menstruation supervened, and I noticed slight signs of consciousness. I told her to sit up, and she did so, and opened her eyes vacantly. I left the room for her friends to dress her, and on returning later I conversed with her, and found her quite oblivious of all that had taken place, but she spoke freely of the music and singing, that is, up to the

point where consciousness had been interrupted. At no time subsequently had she any recollection of these six days which formed a period of such intense anxiety to her friends. I had not at that time become interested in the subject of premature burial, but many in the district, who had been excited by the sensational event, remarked that under other circumstances the result might have been of a more serious character. I could not but agree with their conclusions.

The Nature of Catalepsy.

Dr. Franz Hartmann differentiates between trance and catalepsy, as follows:—"There seems hardly any limit to the time during which a person may remain in a trance; but catalepsy is due to some obstruction in the organic mechanism of the body, on account of its exhausted nervous power. In the latter case the activity of life begins again as soon as the impediment is removed, or the nervous energy has recuperated its strength."

Dr. Gowers, in Quain's "Dictionary of Medicine," ed. 1894, vol. i., pp. 284-5, describes catalepsy as affecting both sexes, at all ages from six to sixty. It is a nervous affection, commonly associated with distinct evidence of hysteria, but said sometimes to occur as an early symptom of epilepsy. It is attended commonly with loss of consciousness. The limbs remain in the position they occupied at the onset, as if petrified. The whole or part of the muscles pass into a state of rigidity. In profound conditions sensibility is lost to touch, pain, and electricity; and no reflex movements can be induced even by touching the conjunctiva, a state of mental trance being associated.

"Cassell's Family Physician" (by Physicians and Surgeons of the principal London Hospitals) describes this singular affection, as follows:—"Catalepsy is one of the strangest diseases possible. It is of rare occurrence, and some very sceptical people have even gone so far as to deny its existence. That is all nonsense, for catalepsy is just as much a reality as gout or bronchitis. A fit of catalepsy—for it is a paroxysmal disease—consists essentially in the sudden suspension of thought, feeling, and the power of moving.

"Cataleptic fits vary very much, not only in their frequency, but in their duration. Sometimes they are very short indeed, lasting only a few minutes. In one case, that of a lady, they would sometimes come on when she was reading aloud. She would stop suddenly in the middle of a sentence, and a peculiar stiffness of the whole body would seize her, fixing the limbs immovably for several minutes. Then it would pass off, and the reading would be continued at the very word at which it had been interrupted, the patient being quite unconscious that anything had happened. But sometimes fits such as these may last for days and days together, and it seems not improbable that people may have been buried in this state in mistake for death."

Statement by Dr. Forbes Winslow.

In a communication received from the eminent specialist, Dr. Forbes Winslow, in September, 1903, relative to this important subject, he says:—

"All the appearances of death may be so strikingly displayed in a person in a cataleptic condition that it is quite possible for burial to take place while life is not

extinct. Cases of persons being buried alive occur in England much more frequently, I dare say, than is generally supposed. I do not consider that the ordinary tests employed to ascertain that life is extinct are sufficient; *I maintain that the only satisfactory proof of death is putrefaction.*

"Trance-sleep is a morbid form of sleep, and has often been mistaken for death. In trance-sleep there appears to be the same suspension of all animal and organic functions which takes place in hybernation, but the hemispherical ganglia continue in active operation. When the torpid state partially extends to the motor system, the cataleptic condition is induced; that is to say, the muscles contract automatically upon any slight impression being made upon them.

"All cases of apparent death present the persistence of pulsations of the heart, a character which distinguishes them from real death; this refers especially to those due to asphyxia and syncope.

"The immediate and certain signs of death are prolonged absence of cardiac pulsation, the simultaneous relaxation of the sphincters, owing to the paralysis of the muscles, and finally the sinking of the globe of the eye and loss of transparency in the cornea. Only the first of these taken by itself is a trustworthy test, but even with this we can be deceived; the certain signs being cadaveric rigidity, absence of muscular contraction under galvanic stimulation, and the last, but certain test, as I have previously stated, putrefaction.

"I consider the law should be made more stringent, as to certifying deaths. To be absolutely satisfactory, no certificate should be signed until after proper

examination of the body, and, indeed, as I have said, until there are signs of putrefaction. I always refuse, myself, to sign a certificate before careful examination, although I have often been asked to do so.

"A case which illustrates the danger of premature burials occurred in my own personal experience not long ago. I was called upon to attend an elderly lady, and on arriving at the house was told she was dead. There was another doctor present, and he also informed me that she was dead, and to all appearances that was so. There was no pulse, no perceptible heart's action, and all the appearances of death were there. I was not satisfied, however, and tried bleeding. The result was that the lady's blood began to circulate, and she recovered consciousness. She had been in a state of catalepsy; but had that case occurred in a hospital, in all probability a screen would have been drawn round the body, and the matter considered as settled. It is mainly the liability of these conditions occurring, accompanied by all the appearances of death, which makes the subject of premature burial so important."

Medical Experiences.

The following case, contributed by Dr. Gooch, will further illustrate this malady:—

"A lady, who laboured habitually under melancholy, a few days after parturition was seized with catalepsy, and presented the following appearances:—She was lying in bed motionless and apparently senseless. It was thought the pupils of her eyes were dilated, and some apprehensions were entertained of effusion on the brain; but on examining them closely it was found they readily contracted when the light fell upon them. The only signs

of life were warmth, and a pulse which was one hundred and twenty, and weak. In attempting to rouse her from this senseless state, the trunk of the body was lifted up and placed so far back as to form an obtuse angle with the lower extremities, and in this posture, with nothing to support her, she continued sitting for many minutes. One arm was now raised, and then the other, and in the posture they were placed they remained. It was a curious sight to see her sitting up staring lifelessly, her arms outstretched, yet without any visible signs of animation. She was very thin and pallid, and looked like a corpse that had been propped up and stiffened in that attitude. She was now taken out of bed and placed upright, and attempts were made to rouse her by calling loudly in her ears, but in vain; she stood up, indeed, but as inanimate as a statue. The slightest push put her off her balance, and she made no exertion to retain it, and would have fallen had she not been caught. She went into this state three times; the first lasted fourteen hours, the second twelve hours, and the third nine hours, with waking intervals of three days after the first fit, and of one day after the second; after this time the disease assumed the ordinary form of melancholia.—*The Science and Practice of Medicine, by Sir W. Aitken, p. 357.*

Dr. John Jebb, F.R.S., cited in Reynold's "System of Medicine," vol. ii., pp. 99-102, has recorded the following graphic case:—

"In the latter end of last year (*viz.*, 1781), I was desired to visit a young lady who, for nine months, had been afflicted with that singular disorder termed a catalepsy. Although she was prepared for my visit, she was seized with the disorder as soon as my arrival was announced. She was employed in netting, and was passing the needle through the mesh, in which position she immediately became rigid, exhibiting, in a very pleasing form, a figure of death-like sleep, beyond the power of art to imitate or the imagination to conceive. Her forehead was serene, her features perfectly composed. The paleness of her colour, her breathing at a distance being also scarcely perceptible, operated in rendering the similitude to marble more exact and striking. The positions of her fingers,

hands, and arms were altered with difficulty, but they preserved every form of flexure they acquired ; nor were the muscles of the neck exempted from this law, her head maintaining every situation in which the hand could place it as firmly as her limbs," etc.

Dr. King Chambers, after citing the above case in full, continues :—

"The most common exciting cause of catalepsy seems to be strong mental emotion. When Covent Garden Theatre was last burnt down, the blaze flashed in at the uncurtained windows of St. Mary's Hospital. One of my patients, a girl of twenty recovering from low fever, was woke up by it and exclaimed that the day of judgment was come. She remained in an excited state all night, and the next morning grew gradually stiff, like a corpse, whispering (before she became quite insensible) that she was dead. If her arm was raised, it remained extended in the position in which it was placed for several minutes, and then slowly subsided. The inelastic kind of way in which it retained its position for a time, and then gradually yielded to the force of gravity, reminded one more of a wax figure than of the marble to which Dr. Jebb compares it. A strange effect was produced by opening the eye-lid of one eye ; the other eye remained closed, and the raised lid after a time fell very slowly like the arm. A better superficial representation of death it is difficult to conceive. . . In both these cases I convinced myself carefully that there was no deception.

"Other cases are of much longer duration. . . . The death-like state may last for days. It may be mistaken for real death, and treated as such. . . .

"Any cases of apparent death that did occur (in former days) were burnt, or buried, or otherwise put out of the way, and were never more heard of. But after the establishment of Christianity, tenderness, sometimes excessive, for the remains of departed friends took the place of the hard, heathen selfishness. The dead were kept closer to the congregations of the living as if to represent in material form the dogma of the Communion of Saints. This led to the discovery that some persons, indeed

some persons of note (amongst others, Duns Scotus the theologian, at Cologne), had got out of their coffins and died in a vain attempt to open the doors of their vaults."

Other Remarkable Cases.

Dr. Chambers relates several other remarkable cases. Here is one :—

"I alighted accidently on another case, communicated to the same scientific body (Acad. Royale des Sciences), by M. Imbert in 1713. It is that of the driver of the Rouen diligence, aged forty-five, who fell into a kind of soporific catalepsy on hearing of the sudden death of a man he had quarrelled with. It appears that 'M Burette, under whose care he was at La Charité, made use of the most powerful assistance of art—bleeding in the arms, the foot, the neck, emetics, purgatives, blisters, leeches,' etc. At last somebody 'threw him naked into cold water to surprise him.' The effect surprised the doctors as much as the patient. It is related with evident wonder how 'he opened his eyes, looked steadfastly, but did not speak.' His wife seems to have been a prudent woman, for a week afterwards she 'carried him home, where he is at present ; they gave him no medicine ; he speaks sensibly enough, and mends every day.'"

The *Lancet*, 1870, vol. i., p. 1044, in its Paris correspondence says :—

"The following curious case is related as having occurred at Dunkirk, on April 14, and as 'showing the utility of catalepsy.' A young girl of seventeen years was seized with a violent attack of epilepsy, and fell, on the above date, into a canal. A boatman immediately jumped into the water to save her, and brought her to the shore after twenty minutes. The most singular circumstance connected with the accident is that, when the young girl was taken out of the water, she presented all the symptoms of catalepsy. Notwithstanding this long immersion, she was resuscitated, and nothing afterwards transpired to cause any anxiety."

Mr. James Braid, M.R.C.S., in the *Medical Times*, 1850, vol. xxi., p. 402, narrates a case of a cataleptic woman in the Manchester Royal Infirmary under the care of Dr. John Mitchell, and writes :—

"Every variety of contrivance and torture was resorted to by various parties who saw her, for the purpose of testing the degree of her insensibility, and for determining whether she might not be an impostor, but without eliciting the slightest indication of activity of any of the senses ; . . . Nevertheless she *heard and understood all that was said and proposed to be done, and suffered the most exquisite torture from various tests applied to her ! !* A fact so important as this ought to be published in every journal throughout the civilised world, so that in future professional men might be thereby led to exercise greater discretion and mercy in their modes of applying tests to such patients."

Peculiar Case near Weymouth.

The Somerset County Herald (Taunton) of October 12, 1895, has the following :—

"The wedding nuptials of a sailor from H.M.S. *Alexandra* and a young woman residing in Broadway, who were recently married, have been interrupted in a most unusual manner by the newly-made bride falling into a trance. On the day following the wedding Mr. and Mrs. Mortimer, for such is the name of the newly-espoused pair, went for a drive, and on returning in the evening the bride, remarking that she did not feel very well, went upstairs, and before long was in a sound sleep, which continued throughout the night and far into the following day. The relatives of the bride, remembering symptoms which she had previously developed, then sent for Dr. Pridham, who at once pronounced that the unfortunate young woman had fallen into a trance. Dr. Colmer, of Weymouth, was likewise called ; but nothing that these two medical gentlemen could do had the slightest effect in arousing their patient from the state of lethargy into which she had so

suddenly and unexpectedly relapsed. In this condition she remained for a space of five days, when she gradually showed signs of returning animation, and in the course of a few hours regained consciousness, though she was then in a very exhausted condition. After her wakening the young woman developed inflammation of the legs, which was regarded as a very serious condition for her to be in. In an interview on Saturday, Dr. Pridham described the trance as being exceedingly death-like in character, and added that, in such trances as the one in question, in the past people have no doubt been actually buried."

A less experienced practitioner would probably have made out a death-certificate, as in numerous similar cases. After burial we hear no more of them; they may have been buried in a death-like trance, but the medical certificate, no matter how inconsiderately given, consigns them to perpetual silence beyond appeal or escape. Family remonstrance is then unavailing, for, except in cases of strong suspicion of poisoning, no Home Secretary or Coroner would grant an order for exhumation.

The existence of trance, catalepsy, and other death counterfeits followed by hasty burial, has been alluded to by reputable writers from time immemorial; and while the veracity of these writers has remained unchallenged, and their narratives are confirmed by hundreds of cases of modern experience, the effect on the public mind has been only of a transitory character, and nothing has been done either in England or America to safeguard the people from such dreadful mistakes.

CHAPTER III.

ANIMAL AND SO-CALLED HUMAN HIBERNATION.

CURIOUS CASE OF TORPIDITY.

THE following case of the jerboa, or jumping mouse, recorded by Major-General Thomas Davies, F.R.S., in the "Transactions of the Linnæan Society,"[1] will show how far a torpid mammal may be removed from the opportunity of breathing, and how imperceptibly, to the eyes of an observer, its torpid life passed into actual death :—

"With respect to the figure given of it in its dormant state (plate viii., fig. 6), I have to observe that the specimen was found by some workmen in digging the foundation for a summer-house in a gentleman's garden, about two miles from Quebec, in the latter end of May, 1787. It was discovered enclosed in a ball of clay, about the size of a cricket ball, nearly an inch in thickness, perfectly smooth within, and about twenty inches under ground. The man who first discovered it, not knowing what it was, struck the ball with his spade, by which means it was broken to pieces, or the ball also would have been presented to me. The drawing will perfectly show how the animal is laid during its dormant state [a tawny mouse, with long hind legs and long tail, coiled up into a perfect ovoid, of which the two poles are the crown of the head and the rump.] How

[1] "Linnæan Transactions," 1797, vol. iv., p. 155. "An Account of the Jumping Mouse of Canada—*Dipus Canadensis.*"

long it had been underground it is impossible to say; but as I never could observe these animals in any parts of the country after the beginning of September, I conceive that they lay themselves up some time in that month, or in the beginning of October, when the frost becomes sharp; nor did I ever see them again before the last week of May, or beginning of June. From their being enveloped in balls of clay, without any appearance of food, I conceive they sleep during the winter, and remain for that time without sustenance. As soon as I conveyed this specimen to my house, I deposited it, as it was, in a small chip box, in some cotton, waiting with great anxiety for its waking; but that not taking place at the season they generally appear, I kept it until I found it began to smell; I then stuffed it, and preserved it in its torpid position. I am led to believe its not recovering from that state arose from the heat of my room during the time it was in the box, a fire having been constantly burning in the stove, and which in all probability was too great for respiration. . . ."

Remarkable Cases of Revival.

In his work "On Trance and Human Hibernation," p. 47, Braid, after citing facts as to higher animals, says:—"There are other creatures which have not the power of migrating from climes too intensely hot for the normal exercise of their physical functions, and the lives of these animals are preserved through a state of torpor superinduced by the want of sufficient moisture, their bodies being dried up from excessive heat. This is the case with snails, which are said to have been revived by a little cold water being thrown on them, after having

remained in a dry and torpid state for fifteen years. The *vibrio tritici* has also been restored, after perfect torpidity and apparent death for five years and eight months, by merely soaking it in water. Some small microscopic animals have been apparently killed and revived again a dozen times by drying and then applying moisture to them. This is remarkably verified in the case of the wheel-animalcule. And Spallanzani states that some animalcules have been recovered by moisture after a torpor of twenty-seven years. According to Humboldt, again, some large animals are thrown into a similar state from want of moisture. Such he states to be the case with the alligator and boa-constrictor during the dry season in the plains of Venezuela, and with other animals elsewhere."—"On Trance and Human Hibernation," p. 47.

Dr. Moore Russell Fletcher, in his treatise on "Suspended Animation," pp. 7, 8, observes:—"Snakes and toads live for a long time without air or food. The following experiment was made by a Mr. Tower, of Gardiner (Maine). An adder, upwards of two feet in length, was got into a glass jar, which was tightly sealed. He was kept there for sixteen months without any apparent change, and when let out, looked as well as when put in, and crawled away.

"The common pond trout, when thrown into snow, will soon freeze, remain so for days, and when put into cold water to remove the frost becomes as lively as ever.

"When residing in New Brunswick, in 1842, we went to a lake to secure some trout, which were frozen in the snow and kept for use. While there we saw men with long wooden tongs catching frost fish from the salt

water at the entrance of a brook. The fish were thrown upon the ice in great quantities. We had a barrel of them put up with snow and kept frozen, and in a cool place. For six or seven weeks they were taken out and used as wanted, and might be kept frozen for an indefinite time, and be alive when thawed in cold water. The two pieces of a fish, cut in two when frozen, would move and try to swim when thawed in cold water."

Hibernation of the Bear.

The bear resembles man in being omnivorous and surprisingly intelligent. He often walks on his hind paws, and uses his fore paws as he would arms, with surprising dexterity. His winter quarters, in which he hibernates, are very remarkable.

When the cold weather arrives he digs a hole in the ground, and tries to pile up as many leaves as he can around and upon his body. The snow begins to fall, until a layer which often, in Russia, reaches to more than six feet high is formed. It is a real burial. There are no exterior signs of the animal, so that when the inhabitants are preparing the winter hunts they have to mark the trees of the forest so as to know where he is lying.

The changes of temperature, thaws, and frosts, with new snow continually added, ultimately form a coat of ice less permeable than many sandy soils, beneath which the animal lives in a lethargic state for three or four months.

When is a Man Dead?

Dr. Brouardel has spent years in a special study of this subject, and has embodied his findings in a remarkable book called "Death and Sudden Death," published

by William Wood & Co., of New York. He says that practically all the signs of life may have disappeared, and the patient may still be resuscitated.

In studying this subject, Dr. Brouardel went first by the lower animals, and there he found many strange cases of apparent death which was not death. From this basis he extended his investigations. Here are some of Dr. Brouardel's findings :—

" In hibernating animals the functions of respiration and circulation are reduced to the minimum during their winter sleep. Submit them while in this state to a reduction of temperature of 9° to 18° Fahr., and the vital phenomena, already nearly imperceptible, are absolutely arrested ; so that if you were to cut one of the animal's paws, you would have a little oozing of blood, but not a stream. Tap the heart with the end of your scalpel, and you will not induce a contraction, and it will be equally impossible to arouse muscular contractibility.

" Take these animals now ; warm them gradually for an hour up to a temperature of 18° Fahr., and they will resume their vital functions. They were, therefore, in a state of apparent death. Is there not room for reflection when we see how closely these phenomena apply to the case of human beings ? "

So-called Human Hibernation.

Dr. George Moore observes that " A state of the body is certainly sometimes produced (in man) which is nearly analogous to the torpor of the lower animals—*a condition utterly inexplicable by any principle taught in the schools.* Who, for instance, can inform us how it happens that certain fishes may be suddenly frozen in the Polar Sea,

and so remain during the long winter, and yet be re-quickened into full activity by returning summer."—"Use of the Body in Relation to the Mind," p. 31.

Hufeland, in his "Uncertainty of Death," 1824, p. 12, observes that it is easier for man to fall into a state of trance than the lower creatures, on account of his complicated anatomy. It is a transitory state between life and death, into which anyone may pass and return from. Trance was common among the Greeks and Romans, who, just before cremation, had the custom of cutting off a finger-joint, most probably to discover if there was any trace of life. Death does not come suddenly; it is a gradual process from actual life into apparent death, and from that to actual death. It is a mistake to take outward appearances for inner death.

A remarkable case, resting upon good authority, illustrative of the maintenance of life under a partial suspension of the action of the heart and lungs, is recorded by Cheyne. It is that of Colonel Townshend, who appears to have possessed the power of voluntarily dying—*i.e.*, of so suspending the heart's action that no pulsation could be felt. The longest period in which he remained in this inanimate state was about half-an-hour, when active life became slowly re-established without any volition or consciousness on his part. No doubt respiration and circulation were feebly continued at intervals in this exceptional case, although so slightly as to be imperceptible to the examiners, or to be indicated by pulsation of the radial artery, or by the hand placed over the region of the heart. The stethoscope had not then been invented, and the method of detecting heart sounds by auscultation was unknown; there are cases,

however, on record, where even the stethoscope in suspended animation has failed to elicit evidence of movement. In a hibernating animal, though apparently dead, circulation and respiration are, of course, still maintained, but are reduced to a minimum. For instance, Boncleut found, in his experiments on the marmot or mountain rat, that the pulsations of the heart, which were 90 when the animal was in an active state, were reduced to 8 or 10 in a minute when it was in the torpid state. When Colonel Townshend died (he really died nine hours after one of these experiments), nothing could be detected *post-mortem* to account for the extraordinary power which he possessed over the action of the heart.

Self-induced Trance.

Mr. Chunder Sen, municipal secretary to the Maharajah of Jeypore, introduced the author, during his visit to India, March 8, 1896, to a venerable and learned fakir, who was seated on a couch Buddhist fashion, the feet turned towards the stomach, in the attitude of meditation, in a small but comfortable house near the entrance to the beautiful public gardens of that city. The fakir possesses the power of self-induced trance, which really amounts to a suspension of life, being undistinguishable from death. In the month of December, 1895, he passed into and remained in this condition for twenty days. On several occasions the experiment has been conducted under test conditions. In 1889, Dr. Hem Chunder Sen, of Delhi, and his brother, Mr. Chunder Sen, had the opportunity of examining the fakir while passing into a state of hibernation, and found that the pulse beat slower and slower until it ceased to

beat at all. The stethoscope was applied to the heart by the doctor, who failed to detect the slightest motion. The fakir, covered with a white shroud, was placed in a small subterraneous cell built of masonry, measuring about six feet by six feet, of rotund structure. The door was closed and locked, and the lock sealed with Dr. Sen's private seal and with that of Mr. Dhanna Tal, the magistrate of the city; the flap door leading to the vault was also carefully fastened. At the expiration of thirty-three days the cell was opened, and the fakir was found just where he was placed, but with a death-like appearance, the limbs having become stiff as in *rigor mortis*. He was brought from the vault, and the mouth was rubbed with honey and milk, and the body and joints massaged with oil. In the evening manifestations of life were exhibited, and the fakir was fed with a spoonful of milk. The next day he was given a little juice of pulses known as *dal*, and in three days he was able to eat bread and milk, his normal diet. These cases are well known both at Delhi and at Jeypore, and the facts have never been disputed. The fakir is a Sanscrit scholar, and is said to be endowed with much wisdom, and is consulted by those who are interested in Hindu learning and religion. He has never received money from visitors, and the mention of it distresses him.

Strange Fakir Feats.

The *Medical Times* of May 11, 1850, contains a communication from Mr. Braid, who says he has "lost no opportunity of accumulating evidence on this subject, and that while many alleged feats of this kind are probably of a deceptive character, still there are others

which admit of no such explanation; and that it becomes the duty of scientific men fairly to admit the difficulty." He then refers to two documents by eye-witnesses of these feats, and which, he says, "with the previous evidence on the subject, must set the point at rest for ever as to the fact of the feats referred to being genuine phenomena, deception being impossible." In one of these instances, the fakir was buried in the ground for six weeks, and was, consequently, deprived not only of food and drink, but also of light and air; when he was disinterred, his legs and arms were shrivelled and stiff, but his face was full; no pulse could be discovered in the heart, temples, or arms. "About three years since I spent some time with a General C——, a highly respectable and intelligent man, who had been a long time in the Indian service, and who was himself an eye-witness of one of these feats. A fakir was buried several feet in the earth, under vigilant inspection, and a watch was set, so that no one could communicate with him; and to make the matter doubly sure, corn was sown upon the grave, and during the time the man was buried it vegetated and grew to the height of several inches. He lay there forty-two days. The gentleman referred to passed the place many times during his burial, saw the growing corn, was also present at his disinterment, and when he questioned the man, and intimated to him that he thought deception had been practised, the fakir offered, for a sum of money, to be buried again, for the same length of time, by the General himself, and in his own garden. This challenge, of course, closed the argument."

Cases of this kind might be multiplied on evidence

which cannot be doubted, and, in Mr. Braid's book, entitled "Human Hibernation," there are cases fully stated. Sir Claude Wade, who was an eye-witness of these feats when acting as political agent at the Court of Runjeet Singh, at Lahore, and from whom Mr. Braid derived his information, makes the following observations:—"I share entirely in the apparent incredibility of the fact of a man being buried alive and surviving the trial for various periods of duration; but however incompatible with our knowledge of physiology in the absence of any visible proof to the contrary, I am bound to declare my belief in the facts which I have represented, however impossible their existence may appear to others." Upon this Mr. Braid observes:—"Such then is the narrative of Sir C. M. Wade, and when we consider the high character of the author as a gentleman of honour, talents, and attainments of the highest order, and the searching, painstaking efforts displayed by him throughout the whole investigation, and his close proximity to the body of the fakir, and opportunity of observing minutely every point for himself, as well as the facilities, by his personal intercourse with Runjeet Singh and the whole of his Court, of gaining the most accurate information on every point, I conceive it is impossible to have had a more valuable or conclusive document for determining the fact that no collusion or deception existed."

Buried Alive at the Royal Aquarium.

A case of this kind was exhibited at the Westminster Aquarium in the autumn of 1895, which was carefully watched and tested by medical experts, without

detecting any appearance of fraud or simulation. The hypnotised man, Walter Johnson, an ex-soldier, twenty-nine years of age, was in a trance which lasted thirty days, during which time he was absolutely unconscious, as shown by the various experiments to which he was subjected.

A case of induced trance and experimental burial, not unlike that of the Indian fakirs referred to, was reported in the *London Daily Chronicle*, March 14, 1896. The experiment was carried out under test conditions.

"After being entombed for six days in a hypnotic trance, Alfred Wootton was dug up and awakened at the Royal Aquarium (Westminster), on Saturday night in the presence of a crowd of interested spectators. Wootton was hypnotised on Monday by Professor Fricker, and consigned to his voluntary grave, nine feet deep, in view of the audience, who sealed the stout casket or coffin in which the subject was immured. Seven or eight feet of earth were then shovelled upon the body, a shaft being left open for the necessary respiration, and in order that the public might be able to see the man's face during the week. The experiment was a novel one in this country, and was intended to illustrate the extraordinary effect produced by the Indian fakirs, and to demonstrate the connection between hypnotism and psychology, while also showing the value of the former art as a curative agent. Wootton is a man thirty-eight years of age; he is a lead-worker, and on Monday weighed 10st. 2½lbs. He had previously been in a trance for a week in Glasgow, under Professor Fricker's experienced hands, so was not altogether new to the business; but he is the first to be 'buried alive' by way of amusement. To the uninitiated the whole thing was gruesome in the extreme, and this particular form of entertainment certainly cannot be commended. Before being covered in, Wootton's nose and ears were stopped with wax, which was removed before he was revived on Saturday. The theory of the burial is to secure an equable temperature day and night—which is impossible when the subject is above ground

in the ordinary way—and therefore to induce a deeper trance. Of course, too, the patient was out of reach of the operator, and no suspicion of continuous hypnotising could rest upon the professor. No nourishment could be supplied for the same reason, though the man's lips were occasionally moistened by means of a damp sponge on the end of a rod, and no record of temperature or respiration could be kept. A good many people witnessed the digging up process, and the awakening took place in the concert room, whither the casket and its burden were conveyed. The professor was not long in arousing his subject, after electric and other tests had been applied to convince the audience that the man was perfectly insensible to pain and everything else. Indeed, a large needle was run through the flesh on the back of the hand without any effect whatever. The first thing on regaining consciousness that Wootton said was that he could not see, and then he asked for drink—milk, and subsequently a little brandy, being supplied. As soon as possible the patient was lifted out of his box, and with help was quickly able to walk about the platform. He complained of considerable stiffness of the limbs, and was undoubtedly weak, but otherwise seemed none the worse for his remarkable retirement from active life, and abstention from food for nearly a week. He was swathed in flannel, and soon found the heat of the room very oppressive, though at first he appeared to be particularly anxious to have his overcoat and his boots. It is anticipated that in a day or two at most Wootton will have regained his usual vigorous health."

Dr. Hartmann's Evidence.

Dr. Hartmann in "Premature Burial," page 23, relates an account of a similar experiment with a fakir, differing from the above, however, in so far as it was made by some English residents, who did not put the coffin into the earth, but hung it up in the air, so as to protect it from the danger of being eaten up by white ants. There seems to be hardly any limitation in regard to the time during which such a body may be preserved

and become reanimated again, provided that it is well protected, although modern ignorance may smile at this statement.

Those of our readers who wish to pursue this subject will find ample material in "Observations on Trance and Human Hibernation," 1850, by James Braid, M.R.C.S.; Dr. Kuhn's report of his investigations of the Indian fakirs to the Anthropological Society of Munich, in 1895; the researches of Dr. J. M. Honigberger, a German physician long resident in India; and in the *India Journal of Medical and Physical Science*, 1836, vol. i., p. 389, etc.

CHAPTER IV.

PREMATURE BURIAL.

How Graveyards Tell Their Tale.

At the sitting of the Paris Academy of Medicine, on April 10, 1827, a paper was read by M. Chantourelle on the danger of hasty burial. This led to a discussion, in which M. Desgenettes stated that he had been told by Dr. Thouret, who presided at the destruction of the vaults of Les Innocens, that many skeletons had been found in positions seeming to show that they had turned in their coffins. Dr. Thouret was so much impressed by the circumstance that he had a special clause inserted in his will relating to his own burial.

Similar revelations, according to Kempner, have followed the examinations of graveyards in Holland, and in New York and other parts of the United States.

The *Casket*, Rochester, New York, U.S., of March 2, 1896, gives a detailed narrative of recent discoveries made by T. M. Montgomery in the removal of Fort Randall Cemetery, with the condition of the bodies found as to decay or state of preservation, and says :—

"We found among these remains two that bore every evidence of having been buried alive. The first case was that of a soldier that had been struck by lightning. Upon opening the lid of the coffin we found that the legs and arms had been drawn up as far as the confines of the coffin would permit. The other was a case of death resulting from alcoholism. The body was slightly

turned, the legs were drawn up a trifle, and the hands were clutching the clothing. In the coffin was found a large whisky flask. Nearly two per cent. of those exhumed here were, no doubt, victims of suspended animation."

Professor Alexander Wilder, M.D., in a pamphlet entitled "Burying Alive a Frequent Peril," mentions a number of cases. Among them he cites the case of the body of a boy, six years old, discovered during the removal of remains from a village cemetery to a new one at Philadelphia, in which the arms were bent over the skull, one leg drawn up, and the other bent across it in such a way as to show that the little fellow, twenty years before, had been hurried to the grave whilst still alive.

Another case, of which he gives the name and address, is that of a man of thirty-five, who was supposed to have died from scarlet fever, and was buried forty-eight hours after. The coffin having to be moved two months later, consequent upon another interment, the glass front was found to be shattered, the bottom kicked out, and the sides sprung. The body lay face downwards, the arms were bent, and in the clenched fists were handfuls of hair.

A Voice from India.

Dr. Chew says :—"Though a layman, still it would be hard to find a more indefatigable sanitarian than my late commanding officer, Lieutenant-Colonel R. C. Sterndale, of the Presidency Volunteer Rifle Battalion, and for many years vice-chairman of the municipality of the suburbs of Calcutta. In order to prove his theory that a great deal of danger existed in the rainy season from subsoil water rising up into the graves, saturating

the bodies, and then poisoning the neighbouring tanks and wells, he caused a trench, ten feet long, six deep, and four wide, to be dug across an old Mohammedan graveyard. Soundings and measurements having been taken of the subsoil water, he had a tarpaulin stretched over the trench, and daily measured the 'fall' of the water-level. He had a drawing made of the section of that graveyard in which the action of the nitre-laden water seemed to mummify some of the bodies. Amongst the rest was a somewhat mummified male corpse which, instead of being on his back, was lying on his abdomen; the left arm supported the chin, but had a piece of it missing; the right hand clutched the left elbow, and the general position of the body was as if, consciousness having returned, the alleged corpse sat up, found the weight of the earth too heavy to work through, and then, dying of suffocation, fell forward in the position in which it was found and exposed."

Dr. Chew adds:—"I have heard and read of several other instances, but as they have not come within my personal observation, I do not mention or refer to them."

A Gravestone and its Story.

On July 2, 1896, the author visited the grave of Madam Blunden, in the Cemetery, Basingstoke, Hants, who, according to the inscription (now obliterated), was buried alive. The following narrative appears in "The Uncertainty of the Signs of Death," by Surgeon M. Cooper, London, 1746, pp. 78, 79:—

"At Basingstoke, in Hampshire, not many years ago, a gentlewoman of character and fortune was taken ill, and, to all appearances, died, while her husband was on

a journey to London. A messenger was forthwith despatched to the gentleman, who returned immediately, and ordered everything for her decent interment. Accordingly, on the third day after her supposed decease, she was buried in Holy Ghost Chapel, at the outside of the town, in a vault belonging to the family, over which there is a school for poor children, endowed by a charitable gentleman in the reign of Edward VI. It happened the next day that the boys, while they were at play, heard a noise in the vault, and one of them ran and told his master, who, not crediting what he said, gave him a box on the ear and sent him about his business; but, upon the other boys coming with the same story, his curiosity was awakened, so that he sent immediately for the sexton, and opened the vault and the lady's coffin, where they found her just expiring. All possible means were used to recover her to life, but to no purpose, for she, in her agony, had bit the nails off her fingers, and tore her face and head to that degree, that, notwithstanding all the care that was taken of her, she died in a few hours in inexpressible torment."

Noises from the Tomb.

The *Sunday Times*, London, December 30, 1838, contains the following:—

"A frightful case of premature interment occurred not long since, at Tonneins, in the Lower Garonne. The victim, a man in the prime of life, had only a few shovelfuls of earth thrown into his grave, when an indistinct noise was heard to proceed from his coffin. The grave-digger, terrified beyond description, instantly fled to seek assistance, and some time elapsed before his return, when the crowd, which had by this time collected in considerable numbers round the grave, insisted on the coffin being opened. As

soon as the first boards had been removed, it was ascertained, beyond a doubt, that the occupant had been interred alive. His countenance was frightfully contracted with the agony he had undergone; and, in his struggles, the unhappy man had forced his arms completely out of the winding sheet, in which they had been securely enveloped. A physician, who was on the spot, opened a vein, but no blood flowed. The sufferer was beyond the reach of art."

From the *Times*, July 7, 1867, p. 12, col. 3.

"The *Journal de Pontarlier* relates a case of premature interment. During the funeral, three days back, of a young woman at Montflorin, who had apparently died in an epileptic fit, the gravedigger, after having thrown a spadeful of earth on the coffin, thought he heard a moaning from the tomb. The body was consequently exhumed, and a vein having been opened, yielded blood almost warm and liquid. Hopes were for a moment entertained that the young woman would recover from her lethargy, but she never did so entirely, and the next day life was found to be extinct."

From the *Lancet*, October 19, 1867, p. 504.

"The *Journal de Morlaix* mentions that a young woman at Bohaste, France, who was supposed to have died from cholera a few days back, was buried on the following afternoon. The sexton, when about to fill in the grave, fancied that he heard a noise in the coffin, and sent for the medical officer, who, on removing the lid and examining the body, gave it as his opinion that the woman had been alive when buried."

The official journal of the French Senate, January 30. 1869, records that the attention of the Senate was called to this case by means of a petition signed by seven residents in Paris, and the facts are confirmed by L. Roger, *Officier de Santé.*

From the *Daily Telegraph*, January 18, 1889.

"A gendarme was buried alive the other day in a village near Grenoble. The man had become intoxicated on potato brandy, and fell into a profound sleep. After twenty hours passed in slumber, his friends considered him to be dead, particularly as his body assumed the usual rigidity of a corpse. When the sexton, however, was lowering the remains of the ill-fated gendarme into the grave, he heard moans and knocks proceeding from the interior of the 'four-boards.' He immediately bored holes in the sides of the coffin, to let in air, and then knocked off the lid. The gendarme had, however, ceased to live, having horribly mutilated his head in his frantic but futile efforts to burst his coffin open."

The *Undertakers' Journal*, September 22, 1893.

"A shocking occurrence is reported from Cesa, a little village near Naples. A woman living at that place was recently seized with sudden illness. A doctor who was called certified that the woman was dead, and the body was consequently placed in a coffin, which was deposited in the watch-house of the local cemetery. Next day an old woman passing close to the cemetery thought she heard smothered cries proceeding from the watch-house. The family was informed, but when the lid of the coffin was forced off a shocking spectacle presented itself to the gaze of the horrified villagers. The wretched woman had turned on her side, and the position of her arm showed that she had made a desperate effort to raise the lid. The eldest son, who was among the persons who broke open the coffin, received such a shock that he died three days later."

From the London *Echo*, October 6, 1894.

"A story of a horrible nature comes from St. Petersburg in connection with the interment at Tioobayn, near that city, of a peasant girl named Antonova. She had presumably died, and in due course the funeral took place. After the service at the cemetery, the grave-diggers were startled by sounds of moaning proceeding from the coffin. Instead, however, of instantly breaking

it open, they rushed off to find a doctor, and when he and some officials arrived and broke open the shell, the unhappy inmate was already the corpse she had been supposed to be a day earlier. It was evident, however, that no efforts could have saved life at the last moment. The body was half-turned in the coffin, the left hand, having escaped its bandages, being under the cheek."

The London *Star*, August 19, 1895.

"Grenoble, August 17.

"On Monday last a man was found in a dying condition by the side of a brook near the village of Le Pin. Everything possible was done for him, but he relapsed into unconsciousness, and became to all appearance dead. The funeral was arranged, and there being no suspicion of foul play, the body was interred on the following day. The coffin had been lowered to the bottom of the grave, and the sexton had begun to cover it with earth, when he heard muffled sounds proceeding from it. The earth was hastily removed and the coffin opened, when it was discovered that the unfortunate occupant was alive. He was taken to a neighbouring house, but rapidly sank into a comatose condition, and died without uttering a word. The second burial took place yesterday."

A writer in the *Referee*, May 19, 1901, makes the following statement :—

"I once, in my childhood's days, saw a man who had been buried alive in the churchyard attached to St. Paul's Church, Deptford. It was at the period of the terrible cholera visitation which occurred, as near as I can remember, about fifty years ago. The burial had proceeded as far as the dirt being sprinkled on the coffin when the bystanders thought they heard a noise proceeding from it. The coffin was quickly raised, and it was found that the man had torn the nails of his hands and feet off in his endeavours to get out. He was taken into my father's house, the Pilot, a public-house now known by another sign, where he was promptly attended to. I saw him about Deptford for years after. Perhaps some old Deptford reader may also remember the circumstances."

Presentiments and Their Realization.

Mr. Oscar F. Shaw, Attorney-at-Law, 145 Broadway, New York, furnished the author with particulars of the following case, of which he had personal knowledge :—

"In or about the year 1851, Virginia Macdonald, who up to that time had lived with her father in Catherine Street, in the City of New York, apparently died, and was buried in Greenwood Cemetery, Brooklyn, N.Y.

"After the burial her mother declared her belief that the daughter was not dead when buried, and persistently asserted her belief. The family tried in various ways to assure the mother of the death of her daughter, and even resorted to ridicule for that purpose ; but the mother insisted so long and so strenuously that her daughter was buried alive, that finally the family consented to have the body taken up, when, to their horror, they discovered the body lying on the side, the hands badly bitten, and every indication of a premature burial."

The *Daily Express* of June 15, 1903, cites a horrible case, from its Paris correspondent, of a boy buried alive :—

"A ghastly incident is reported from Benevent, where a boy, fourteen years of age, was taken ill, and three days ago was declared to be dead. The mother went almost mad with grief, and force had to be used to get the body from her for interment, asserting that her son was not dead. The day after the funeral she was discovered to have reopened the grave, removing the earth with her hands, and to prove to her that her son was really dead when buried the sexton opened the coffin. It was then found that the boy, whose body was frightfully contorted, had actually been suffocated in the coffin."

The *Daily Mail*, August 3, 1903, publishes the following from its St. Petersburg correspondent :—

"A terrible occurrence is reported from the South Russian town, Novocherkask. The wife of a landed proprietor in the vicinity having died, the Orthodox priest persuaded the widower to have her buried at once on account of the excessive heat, which was likely to hasten decomposition. After the funeral, however, the bereaved husband began to feel very uneasy, and on the third day he asked the priest's permission to exhume the body to see if his wife were really dead. When the coffin was opened a terrible sight presented itself to the horror-stricken husband. There had evidently been a great struggle, as through the ignorance of the priest the woman had been buried while in a comatose state."

From "Death" to Life and its Horrors.

The *Lancet*, May 22, 1858, p. 519, has the following :—

"A case of restoration to consciousness after burial is recorded by the Austrian journals in the person of a rich manufacturer, named Oppelt, at Rudenberg. He was buried fifteen years ago, and lately, on opening the vault, the lid of the coffin was found forced open, and his skeleton in a sitting posture in a corner of the vault. A Government Commission has reported on the matter."

From the *Times*, May 6, 1874, p. 11, foot of col. 4.

"The *Messager du Midi* relates the following dreadful story :— A young married woman residing at Salon (Bouches du Rhône) died shortly after her confinement in August last. The medical man, who was hastily summoned when her illness assumed a dangerous form, certified her death, and recommended immediate burial in consequence of the intense heat then prevailing, and six hours afterwards the body was interred. A few days since, the husband having resolved to re-marry, the mother of his late wife desired to have her daughter's remains removed to her native town, Marseilles. When the vault was opened a horrible sight presented itself. The corpse lay in the middle of the vault, with

dishevelled hair and the linen torn to pieces. It evidently had been gnawed in her agony by the unfortunate victim. The shock which the dreadful spectacle caused to the mother has been so great that fears are entertained for her reason, if not for her life."

The *British Medical Journal*, December 8, 1877, p. 819, inserts the following:—

"A correspondent at Naples states that the Appeal Court has had before it a case not likely to inspire confidence in the minds of those who look forward with horror to the possibility of being buried alive. It appeared from the evidence that some time ago a woman was interred with all the usual formalities, it being believed that she was dead, while she was only in a trance. Some days afterwards, the grave in which she had been placed being opened for the reception of another body, it was found that the clothes which covered the unfortunate woman were torn to pieces, and that she had even broken her limbs in attempting to extricate herself from the living tomb. The Court, after hearing the case, sentenced the doctor who had signed the certificate of decease, and the mayor who had authorised the interment, each to three months' imprisonment for involuntary manslaughter."

The following remarkable case of waking in the grave is reported from Vienna:—

"A lady residing at Derbisch, near Kolin, in Bohemia, where she owned considerable property, was buried last week, after a brief illness, in the family vault at the local cemetery. Four days afterwards her granddaughter was interred in the same place, but as the stone slab covering the aperture was removed, the bystanders were horrified to see that the lid of the coffin below had been raised, and that the arm of the corpse was protruding. It was ascertained eventually that the unfortunate lady, who was supposed to have died of heart disease, had been buried alive. She had evidently recovered consciousness for a few minutes, and had found strength enough to burst open her coffin. The authorities are bent on taking measures of the utmost severity against those responsible."—*Undertakers' Journal*, August 22, 1889.

The *Undertakers' and Funeral Directors' Journal*, July 22, 1890.

"A horrible story comes from Majola, Mantua. The body of a woman, named Lavrinia Merli, a peasant, who was supposed to have died from hysterics, was placed in a vault on Thursday, July 3. On Saturday evening it was found that the woman had regained consciousness, torn her grave-clothes in her struggles, had turned completely over in the coffin, and had given birth to a seven-months'-old child. Both mother and child were dead when the coffin was opened for the last time previous to interment."

The London *Globe*, October 26, 1896, mentions the following case :—

"A soldier's wife was reported by a military surgeon to have died during her confinement. She was buried on his certificate of death ; but about two days afterwards the baby to whom she had given birth was also reported dead. The mother's coffin was then disinterred and opened, with the view of placing the deceased baby in it ; but, horrible to relate, it was discovered by only too evident signs that the woman had been buried alive, and had recovered consciousness after burial."

Exhumed without an Order.

The following case, published in the *Spectator*, October 19, 1895, is instructive in that the victim was exhumed without an order from the Home Secretary, or waiting for any formalities, and was restored to life :—

"Sir,—*Apropos* of your article and the correspondence about being buried alive, in the *Spectator* of September 28, the enclosed may interest you. It is an extract which I have copied to-day out of a letter to a neighbour of mine from his brother in Ireland, dated October 6, 1895 :—'About three weeks ago, our kitchen-maid asked leave to go away for two or three days to see her mother, who was dying. She came back again on a Friday or

Saturday, saying her mother was dead and buried. On Wednesday she got a letter saying her mother had been dug up, and was alive and getting all right. So she went up to see her, and sure enough there she was "right enough," as G—— says, having got out of her trance, and knowing nothing about being in her grave from Saturday till Tuesday. The only thing she missed was her *rings*; she could not make out where they had got to. Her daughter, it seems, told the doctor on her way back here that it struck her that her mother had never got stiff after death, and she could not help thinking it was very odd; and it made her very uncomfortable. He never said a word; and the kitchen-maid heard nothing until she got the letter saying her mother was back again and alive. Luckily, she did not "come to" until she had been taken out of her coffin. It was a "rum go" altogether. They say exactly the same thing happened to a sister of hers who is now alive and well.'—I am, Sir, etc.,

"PEVERIL TURNBULL."

THE EVIDENCE OF UNDERTAKERS.

The *Undertakers' and Funeral Directors' Journal*, July 22, 1889, relates the following cases:—

"A New York undertaker recently told the following story, the circumstances of which are still remembered by old residents of the city:—'About forty years ago a lady living on Division Street, New York City, fell dead, apparently, while in the act of dancing at a ball. It was a fashionable affair, and being able to afford it, she wore costly jewellery. Her husband, a flour merchant, who loved her devotedly, resolved that she should be interred in her ball dress, diamonds, pearls, and all; also that there should be no autopsy. As the weather was very inclement when the funeral reached the cemetery, the body was placed in the receiving vault for burial next day. The undertaker was not a poor man, but he was avaricious, and he made up his mind to possess the jewellery. He went in the night, and took the lady's watch from the folds of her dress. He next began to draw a diamond ring from her finger, and in doing so had to use violence enough to tear the skin. Then the lady moved and groaned, and the thief, terrified and

conscience-stricken, fled from the cemetery, and has never been since heard from, that I know of. The lady, after the first emotions of horror at her unheard-of position had passed over, gathered her nerves together and stepped out of the vault, which the thief had left open. How she came home I cannot tell; but this I know—she lived and had children, two at least of whom are alive to-day.'

"Another New York undertaker told this story. The New York papers thirty-five years ago were full of its ghastly details. 'The daughter of a Court Street baker died. It was in winter, and the father, knowing that a married sister of his dead child, who lived in St. Louis, would like to see her face before being laid in the grave for ever, had the body placed in the vault, waiting her arrival. The sister came, the vault was opened, the lid of the coffin taken off, when, to the unutterable horror of the friends assembled, they found the grave-clothes torn in shreds, and the fingers of both hands eaten off. The girl had been buried alive.'

"Until about forty years ago a noted family of Virginia preserved a curious custom, which had been religiously observed for more than a century. Over a hundred years ago a member of the family died, and, upon being exhumed, was found to have been buried alive. From that time until about 1850, every member of the family, man, woman, or child, who died, was stabbed in the heart with a knife in the hands of the head of the house. The reason for the cessation of this custom was that in 1850 or thereabouts, a beautiful young girl was supposed to be dead, the knife was plunged into her bosom, when she gave vent to a fearful scream and died. She had merely been in a trance. The incident broke her father's heart, and in a fit of remorse he killed himself not long afterwards.

"There are many families in the United States who, when any of their number dies, insist that an artery be opened to determine whether life has fled or not."

Dr. Chew's Reminiscences.

While in India, in the early part of the year 1896, Dr. Roger S. Chew, of Calcutta, who, having been laid out for dead, and narrowly escaped living sepulture, has

had the best reasons for studying the subject, gave me particulars of the following cases :—

"Frank Lascelles, aged thirty-two years, was seated at breakfast with a number of us young fellows, and was in the middle of a burst of hearty laughter when his head fell forward on his plate and he was 'dead.' As there was a distinct history of cardiac disease in his family, while he himself had frequently been treated for valvular disease of the heart, he was alleged to have 'died' of cardiac failure, and was duly interred in the Coonor Cemetery. Some six months later, permission was obtained to remove his remains to St. John's Churchyard in Ootacamund. The coffin was exhumed, and, as a 'matter of form,' the lid removed to identify the resident, when, to the horror of the lookers-on, it was noticed that, though mummification had taken place, there had been a fearful struggle underground, for the body, instead of being on its back as it was when first coffined, was *lying on its face*, with its arms and legs drawn up as close as the confined space would permit. His trousers (a perfectly new pair) were burst at the left knee, while his shirt-front was torn to ribbons and bloodstained, and the wood of that portion of the coffin immediately below his mouth was stained a deep reddish-brown-black (*blood*). Old Dr. Donaldson, whom we were all very fond of, tried to explain matters by saying that the jolting of the coffin on its way to the cemetery had overturned the body, and that the blood stains on the shirt and wood were the natural result of blood flowing (*i.e.*, oozing) out of the mouth of the corpse as it lay face downwards. A nice theory, but scarcely a probable one, as all the jolting in creation could not possibly turn a corpse over in an Indian coffin, which is so built that there is scarcely two inches spare space over any portion of the contained body, and unless the supposed corpse regained consciousness and exerted *considerable* force, it could not possibly turn round in its *narrow* casket.

"Mary Norah Best, aged seventeen years, an adopted daughter of Mrs. C. A. Moore, *née* Chew, 'died' of cholera, and was entombed in the Chew's vault in the old French cemetery at Calcutta. The certifying surgeon was a man who would have benefited by her death, and had twice (though ineffectually) attempted to put an

end to her adopted mother, who fled from India to England after the second attempt on her life, but, unfortunately, left the girl behind. When Mary 'died' she was put into a *pine* coffin, the lid of which was *nailed*, not screwed, down. In 1881, ten years or so later, the vault was unsealed to admit the body of Mrs. Moore's brother, J. A. A. Chew. On entering the vault, the undertaker's assistant and I found the lid of Mary's coffin on the floor, while the position of the skeleton (half in, half out of the coffin, and an ugly gash across the right parietal bone) *plainly* showed that after being entombed Mary awoke from the trance, struggled violently till she wrenched the lid off her coffin, when she either fainted away with the strain of the effort in bursting open her casket, and while falling forward over the edge of her coffin struck her head against the masonry shelf, and died almost immediately; or, worse still—as surmised by some of her clothing which was found hanging over the edge of the coffin, and the position of her right hand, the fingers of which were bent and close to where her throat would have been had the flesh not rotted away—she recovered consciousness, fought for life, forced her coffin open, and sitting up in the pitchy darkness of the vault went mad with fright, tore her clothes off, tried to throttle herself, and banged her head against the masonry shelf until she fell forward senseless and dead."

Could the Battle-field Speak.

The *New York Herald* (Paris), January 24, 1897, says:—

"Dr. Good has not the slightest doubt that premature burial may take place on the battle-field, and cited a case which was afterwards confirmed by Dr. Halsterd Boyland, who was present at the time, and under whose eyes 'the dead man' came to life. Dr. Good continues:—About four o'clock in the afternoon on August 14, 1870, at the battle of Borny, near Metz, I saw a shell burst over the head of a *tirailleur* posted about thirty yards to the right, and in front of me he fell to the ground dead. At midnight, in going over the field again to search for any wounded that might have been overlooked, I chanced to pass by that same spot, and put my

lantern to the man's face; his eyes were open and bloodshot, and from the nostrils and mouth had oozed a bloody froth. I turned the head to the right and left to see where the shell had struck, but not a scratch anywhere, and the body neither rigid nor cold. I then ordered the *infirmiers* to put the man on a stretcher and carry him to the little church where my temporary ambulance was established. What was my surprise when Dr. Boyland, who was then assistant surgeon-major in the same ambulance, came at four o'clock in the morning to tell me that my dead man had come to life again and asked *à boire?* Six weeks later that soldier, Martin, was sent back to his regiment fit for service. Here the concussion of the brain had caused inhibition of all the functions; there was no heart-beat perceptible nor any sign of respiration, and if the *sapeurs* had come, as they sometimes did in the middle of the night instead of early next morning to bury the dead, this poor devil would have been thrown alive in the *fosse commune.*"

A correspondent in the *Guernsey Star*, of December 16, 1902, writes as follows:—

"Some years since a pensioner from the army worked for my father. This ex-soldier had served in the Peninsular wars, Crimean, Indian, African. In one sanguinary battle he was badly wounded, and picked up and laid on a heap with many others who were supposed to be dead. A big trench was prepared, and when ready the huge mass of dead bodies was removed into it. But now and again a body was found to be still alive. The person of whom I write was one of them. His opinion was that the hurried burial of soldiers means the suffocating in the earth of many who would recover from their wounds and loss of blood if given the chance. Doubtless in the late war in Africa many have been buried who were simply in a state of trance."

Dr. Chew narrated the following circumstance to the author:—

"Shortly after the Afghan war of 1878, Surgeon-Major T. Barnwell and I were told off to take a large number of time-expired men, invalids, and wounded, to Deolali on their way to England.

Some of the wounded were in a very critical state, necessitating great care; one man in particular, Trooper Holmes, of the 10th Hussars, who had an ugly bullet-wound running along his left thigh and under the groin. Our only means of transport for these poor fellows was the 'palki' or doolie carried by four bearers at a curious swinging pace. When we got to Nowshera, Holmes seemed on a fair way to recovery, but the swinging of the doolie seemed too much for him, and he grew weaker day by day till we got to Hassan Abdool, when we could not rouse him to take some nourishment before starting on the march, and to all appearance he seemed perfectly dead; but as there was neither the time nor convenience to hold a *post-mortem*, we carried the body on to 'John Nicholson,' where, the same difficulties being in the way, and no facilities for burial, we were obliged to put the *post-mortem* off for another day, and convey the corpse to Rawal Pindi rest camp, where we laid him on the floor of the mortuary tent and covered him over with a tarpaulin. This was his salvation, as next morning (*i.e.*, the third day succeeding his 'death'), when we raised the tarpaulin to hold the *post-mortem*, some hundreds of field mice (these tracts are *noted* for them) rushed out, and we noticed that Holmes was breathing, though very slowly—five or six respirations to the minute—and there were a few teeth marks where the mice had attacked his calves. To prevent a relapse by the jolting on further marches, we handed him over to the station hospital staff, who pulled him round, and then forwarded him to the headquarters of his regiment at Meerut."

CHAPTER V.

NARROW ESCAPES FROM PREMATURE BURIAL.

ALMOST every intelligent and observant person with whom you converse, if the subject be introduced, has either known or heard of narrow escapes from premature burial within his or her own circle of friends or acquaintances; and it is no exaggeration to say that such cases are numbered by thousands. It is to be hoped that the number of timely discoveries vastly exceed those actually interred in a state of suspended animation; but as no investigation of graveyards or cemeteries (which effectually conceal their own tragedies) has ever taken place in England until the remains are reduced to dust, and rarely in other countries, one cannot be sure that this optimistic view is correct.

An apparent suspension of life, following a serious illness, is usually considered a satisfactory proof of the reality of the expected death; but these conditions cannot always be relied upon, as the following illustration proves:—

A LEAF FROM EDITOR'S CASE BOOK.

I had been attending for some time (about seven years ago) a child aged three years, who had suffered primarily from convulsions, followed by vomiting and diarrhœa, with subsequent exhaustion and emaciation.

There seemed no hope of recovery, and I left my little patient one night fully believing I had seen him for the last time alive. I was late on my country rounds next day, and when I arrived at the cottage I noticed the blinds were drawn, and, upon entering, my eyes at once fell upon a couch pushed into a corner of the room, and covered by a white sheet, whilst the broken-hearted parents were weeping by the settle. I sat down and tried to comfort them, and finally left directions as to the hour when they might send for the death certificate. Before leaving I walked toward the couch, and drew back the covering from the pale waxen face. The jaw was fastened by a band in the usual way, coppers had been placed over the eyelids, and all was in readiness for the shell, which the undertaker was expected to bring in a few minutes. As I stood looking intently at the child I fancied I detected the slightest movement of the chest. It could but be imagination, I thought; nevertheless, instinctively I felt for the wrist, but failed to detect a pulse. Still, I watched—there again was that tremor! I applied my stethoscope to the region of the heart without response, but, feeling dissatisfied, I undid the nightdress, and applied the instrument to the bare skin. I could hardly believe my ears—there was undoubtedly a beat! I shall never forget the shriek which the mother gave when I said, "Mrs. W——, your child is not dead!" I at once applied hot flannels to the feet, and gently massaged the body for two or three hours, and had the satisfaction before I left—long after the undertaker had come and gone—of seeing the child taking nourishment in its mother's arms. He is now a fine, strong, healthy lad. He *might* have been—otherwise.

"Dead"—by Medical Certificate.

This danger is further illustrated by an incident which was related at a meeting of the London Association for the Prevention of Premature Burial, January 28, 1903 :—

"A lady, living at Holland Road, Kensington, testified that on hearing the news of the loss of her property, she went into violent hysterics for two hours, and then was thought to have died. After being left for twenty-four hours, she was taken out of her bed, rolled on the floor, and needles and pins were stuck in her. Next morning one of the servants, on looking at her body on the bed, thought it moved. The doctor was sent for again, but he certified that she was undoubtedly dead, and so the coffin was ordered. Three hours afterwards her daughter said :—'I don't think mother is dead,' and applied some brandy to the cold lips. 'Then I came to,' said the lady, who added, 'That was five years ago—*I have my death certificate at home!!!* Although I could not move, I could hear everything. I heard the men take my measurement for the coffin.'"

"That," said Mr. Arthur Lovell (the hon. sec.) "was a state of trance with which I am rather familiar. What we want are State-appointed certifiers to examine all cases of supposed decease."

"Another lady in the meeting certified that she knew a girl at Kensington who 'came to' after being pronounced dead, and who remembers hearing the doctor say—'Ah, poor thing, now she is out of her suffering.'"

The *Daily Express*, of March 20, 1903, and the *Daily Mail*, of the 9th, give details of the supposed death of a well-known lady, who, with her family, had long resided in the village of Woore, near Keele, North Staffordshire, and who, after having been certified as dead by the local physician, was laid ready for interment :—

"All preparations for the funeral had been made, and friends and relatives assembled to take a final farewell. As the mourners

watched, the eyes of the lady were seen to open and her lips to move. Life had returned to the supposed corpse. The news of the strange event spread throughout the village and district, and produced the greatest excitement."

The *Daily Express*, of January 20, 1902, contains the following :—

"Frau Alexandre Szabo, of Debreczin, Hungary, was certified dead by two doctors. She was placed in a coffin and the lid screwed down. As the coffin was being taken from the house the bearers heard a noise within it. It was opened, and the woman was found to be alive."

The *Undertakers' Journal*, July 22, 1893, says :—

"Charles Walker was supposed to have died suddenly at St. Louis a few days ago, and a burial certificate was obtained in due course from the coroner's office. The body was lying in the coffin, and the relatives took a farewell look at the features, and withdrew as the undertaker's assistants advanced to screw down the lid. One of the undertaker's men noticed, however, that the position of the body in the coffin seemed to have undergone some slight change, and called attention to the fact. Suddenly, without any warning, the 'corpse' sat up in the coffin and gazed round the room. A physician was summoned, restoratives were applied, and in half an hour the supposed corpse was in a warm bed, sipping weak brandy and water, and taking a lively interest in the surroundings. Heart-failure had produced a species of syncope resembling death that deceived even experts."

The *Banner of Light*, Boston, July 28, 1894, quotes the following case of apparent sudden death medically certified :—

"Sprakers, a village not far from Rondout, N.Y., was treated to a sensation Tuesday, July 10, by the supposed resurrection from the dead of Miss Eleanor Markham, a young woman of respectability, who to all appearance had died on Sunday, July 8.

"Miss Markham about a fortnight ago complained of heart trouble, and was treated by Dr. Howard. She grew weaker gradually, and on Sunday morning apparently breathed her last, to the great grief of her relatives, by whom she was much beloved. The doctor pronounced her dead, and furnished the usual burial certificate.

"Undertaker Jones took charge of the funeral arrangements. On account of the warm weather it was decided that the interment should take place Tuesday, and in the morning Miss Markham was put in the coffin.

"After her relatives had taken the last look on what they supposed was their beloved dead, the lid of the coffin was fastened on, and the undertaker and his assistant took it to the hearse waiting outside. As they approached the hearse a noise was heard, and the coffin was put down and opened in short order. Behold! there was poor Eleanor Markham lying on her back, her face white and contorted, and her eyes distended.

"'My God!' she cried, in broken accents. 'Where am I? You are burying me alive.' 'Hush! child,' said Dr. Howard, who happened to be present. 'You are all right. It is a mistake easily rectified.'

"The girl was then taken into the house and placed on the bed, when she fainted. While the doctor was administering stimulating restoratives the trappings of woe were removed, and the hearse drove away with more cheerful rapidity than a hearse was ever driven before.

. . . . . .

"'I was conscious all the time you were making preparations to bury me,' she said, 'and the horror of my situation is altogether beyond description. I could hear everything that was going on, even a whisper outside the door, and although I exerted all my will-power, and made a supreme physical effort to cry out, I was powerless. . . . At first I fancied the bearers would not hear me, but when I felt one end of the coffin falling suddenly, I knew that I had been heard.'

"Miss Markham is on a fair way to recovery, and what is strange is that the flutterings of the heart that brought on her illness are gone."

Thirteen Days After "Death."

In a letter received from Mrs. H. E. Wright, of 2 Bedford Road, Ilford, Essex, under date May 31, 1897, she says:—"A friend of mine was supposed to die of cholera at Boulogne some years ago. She heard all the preparations being made for her funeral, when fortunately, by a desperate exertion, she managed to give signs of life. I know of another somewhat similar case; but the most extraordinary case I ever heard of was one related by an aged relative, which happened in a ladies' boarding-school at Edinburgh, in which she was pupil. This must have been between eighty and ninety years ago. A young girl from the West Indies was confided in an especial manner to the care of the lady principal. One day the girl died, after having been indisposed for a few days. The best doctors in Edinburgh—one of the chief medical schools in the world—pronounced the girl dead, and wanted to have her buried, but the principal declared that nothing on earth would induce her to have the child buried until unmistakable signs of corruption showed themselves; but days passed and no signs to satisfy the good lady appeared, who meanwhile kept applying hot bread to the soles of the feet. At last, after ten days or so, even the eminent doctors began to be staggered. At the end of thirteen days, when the principal went to her room with hot bread, she found the girl sitting up in bed, rubbing her eyes in a somewhat bewildered manner, and expressing a desire to get up and set about her lessons. It is quite possible that had she not come from such a distance her own relations might have been called in, and the poor child buried; but in days when there were

no steamers, and a voyage to the West Indies might mean two or three months, the schoolmistress felt all the agony of letting the parents know that their daughter had been dead many weeks before the information came to them. So she acted with the determination of despair, and acted wisely and well."

A Resuscitated Humorist.

The *Undertakers' and Funeral Directors' Journal* of May, 1888, narrates an interesting and apparently trustworthy story:—

"Mrs. Lockhart, of Birkhill, who died in 1825, used to relate to her grandchildren the following anecdote of her ancestor, Sir William Lindsay, of Covington, towards the close of the seventeenth century:—'Sir William was a humorist, and noted, moreover, for preserving the picturesque appendage of a beard at a period when the fashion had long passed away. He had been extremely ill, and life was at last supposed to be extinct, though, as it afterwards turned out, he was merely in a "dead faint" or trance. The female relatives were assembled for the "chesting"—the act of putting a corpse into a coffin, with the entertainment given on such melancholy occasions—in a lighted chamber in the old tower of Covington, where the "bearded knight" lay stretched upon his bier. But when the servants were about to enter to assist at the ceremonies, Isabella Somerville, Sir William's great-granddaughter, and Mrs. Lockhart's grandmother, then a child, creeping close to her mother, whispered into her ear, "The beard is wagging! the beard is wagging!" Mrs. Somerville, upon this, looked to the bier, and, observing indications of life in the ancient knight, made the company retire, and Sir William soon came out of his faint. Hot bottles were applied and cordials administered, and in the course of the evening he was able to converse with his family. They explained that they had believed him to be actually dead, and that arrangements had even been made for his funeral. In answer to the question, "Have the folks been warned?" (*i.e.*,

invited to the funeral) he was told that they had—that the funeral day had been fixed, an ox slain, and other preparations made for entertaining the company. Sir William then said, "All is as it should be; keep it a dead secret that I am in life, and let the folks come." His wishes were complied with, and the company assembled for the burial at the appointed time. After some delay, occasioned by the non-arrival of the clergyman, as was supposed, and which afforded an opportunity of discussing the merits of the deceased, the door suddenly opened, when, to their surprise and terror, in stepped the knight himself, pale in countenance and dressed in black, leaning on the arm of the minister of the parish of Covington. Having quieted their alarm and explained matters, he called upon the clergyman to conduct an act of devotion, which included thanksgiving for his recovery and escape from being buried alive. This done, the dinner succeeded. A jolly evening, after the manner of the time, was passed, Sir William himself presiding over the carousals.'"

Restoration by Warmth.

The *Lancet*, November 27, 1858, p. 561, cites a remarkable case which was afterwards corroborated in all its details by the surgeon who attended the patient, Mr. R. B. Mason, M.R.C.S., of Nuneaton.

"The girl, whose name is Amelia Hinks, is twelve or thirteen years of age, and resides with her parents in Bridge Street, Nuneaton. She had lately appeared to be sinking under the influence of some ill-explained disorder, and about three weeks since, as her friends imagined, she died. The body was removed to another room. It was rigid and icy cold. It was washed and laid out with all due funereal train. The limbs were decently placed, the eyelids closed and penny-pieces laid over them. The coffin was ordered. For more

than forty-eight hours the supposed corpse lay beneath the winding-sheet, when it happened that her grandfather, coming from Leamington to assist in the last mournful ceremonies, went to see the corpse. The old man removed a penny-piece, and he thought that the corpse winked! There was a convulsive movement of the lid. This greatly disturbed his composure; for, though he had heard that she died with her eyes open, he was unprepared for this palpebral signal of her good understanding with death. A surgeon is said to have been summoned, who at first treated the matter as a delusion, but subsequently ascertained stethoscopically that there was still slight cardiac pulsation. The body was then removed to a warm room, and gradually the returning signs of animation became unequivocal. When speech was restored, the girl described many things which had taken place since her supposed death. She knew who had closed her eyes and placed the coppers thereon. She also heard the order given for her coffin, and could repeat the various remarks made over her as she lay in her death-clothes. She refused food, though in a state of extreme debility. She has since shown symptoms of mania, and is now said to have relapsed into a semi-cataleptic condition."

The *Lancet*, March 5, 1859, p. 254, writes further:—

"Another case of trance is reported, in addition to those which we have lately recorded. A widow named Aufray, about sixty years of age, of St. Agnan de Cenuières (Eure), long seriously ill, became suddenly worse, grew cold and motionless, and, as it was thought,

dead. She was laid out, the coffin ordered, and the church bell tolled. She recovered consciousness just before the funeral was to take place."

Apparent Death in Pregnancy.

Hufeland (one of the greatest authorities on the subject in Germany), in his essay upon the uncertainty of the signs of death, tells of a case of the wife of Professor Camerer, of Tübingen, who was hysterical, and had a fright in the sixth month of her pregnancy, that brought on convulsions (eclampsia), which continued for four hours, when she seemed to die completely. Two celebrated physicians, besides three others of less note, regarded the case as ended in death, as all the recognised signs of death were present. However, attempts to revive her were at once resorted to, and were continued for five hours, when all the medical attendants, except one, gave the case up, and left. The physician who remained pulled off a blister-plaster that had been put on one of the feet, when the lady gave feeble signs of life by twitchings about the mouth. The doctor then renewed his efforts to revive her, by various stimulating means, and by burning, and by pricking the spine; but all in vain, for after her slight evidences of revival, she seemed to die unmistakably. She lay in a state of apparent death for six days, but there was a small space over the heart where a little warmth could be detected by the hand, and on this account the burial was put off. On the seventh day she opened her eyes, and slowly revived, but was completely unconscious of all that had happened. She then gave birth to a dead child, and soon thereafter recovered her health completely.

After Pregnancy.

Dr. Frederick A. Floyer, of Mortimer, Berks, published the following case in the *Tocsin*, November 1, 1889, vol. i., p. 84, under the head of "Premature Burial":—

"A narrow escape of this was recently communicated direct to the writer, and as it has some extremely important bearings on the value of what are usually considered to be evidences of death, we give it as told by the survivor, who is still alive in the form of a cheery and intelligent old lady in the fullest possession of her faculties and memory.

"Herself the wife of a medical officer attached to the —th Regiment, she was stationed at —— Island, where at the age of twenty-eight she was safely confined. Shortly after this she was walking out with an attendant when she was taken suddenly ill with a painful spasm of the heart—what appears to have been an attack of *angina pectoris*—and was conveyed indoors and propped up with pillows, suffering great pain, and although medical attendance was summoned, nothing was of avail, and she died—at least in the opinion of those around her, who paid the proper attention to what they regarded as a corpse. It was the custom there to bury at sundown anyone who died during the day. We understand that in warm countries it is difficult to close the eyelids properly, and so this lady, lying motionless and rigid, contemplated with perfectly clear perception, but with an utter indifference, the bringing in of the coffin and the necessary preparations for her interment; she remembers her children coming to take a last look at her, and then being taken down stairs.

"She would never have lived to tell the story but for an accident, which happened in this way. Her nurse, who was much attached to her, was stroking her face and the muscles of her jaw, and presently declared she heard a sound of breathing. Medical assistance was summoned, and the mirror test applied, but the surface was undimmed. Then, to make sure, they opened a vein in each arm, but no blood flowed. No limb responded to stimulus, and they declared that the nurse was mistaken, and that the body was dead beyond doubt.

"But the nurse persisted in her belief and in her attentions, and did succeed in establishing a sign of life. Then mustard applications to her feet and to the back of her neck, and burnt feathers applied to her nostrils, which she remembered burning her nose, completed her return to consciousness."

Discussion in the French Senate.

The *Medical Times*, London, 1866, vol. i., p. 258, under the heading "Buried Alive," remarks as follows:—"The abundance of other topics hinders us at present from saying more than a few words on the conditions under which there may be real danger of burial before life is quite extinct Now, we will only reproduce the cases reported by Cardinal Archbishop Donnet, in the French Senate, in a discussion on a petition that the time between death and burial should be lengthened. We will add one instance, which we have heard on the best authority:—About thirty years ago, a young woman of eighteen, daughter of Madame Laligand, living in the Rue des Tonnelliers, at Beaune, in Burgundy, was

supposed to have died. The ordinary measures were taken for interment. The body was put in a coffin, and taken to the church; the funeral service was said, and the *cortège* set out for the cemetery; but on the road between the church and the cemetery the supposed dead recovered power of motion and speech, was removed from the coffin, put to bed, recovered, married, and lived eighteen years afterwards. She said she retained her consciousness during the whole of her supposed death, and had counted the nails that were driven into her coffin. Statements such as these, and such as those made by the Archbishop, will surely be subjected to the ordeal of a French scientific commission, and we may suspend our judgment for the present. To return to his Eminence. He said he had the very best reasons for believing that the victims of hasty interments were more numerous than people supposed. He considered the rules and regulations prescribed by the law very judicious; but, unfortunately, they were, particularly in the country, not always executed as they should be, nor was sufficient importance attached to them. In the village he was stationed in as an assistant-curate in the first period of his sacerdotal life, he saved two persons from being buried alive. The first an aged man, who lived twelve hours after the hour prescribed for his interment by the municipal officer; the second was a man who was quite restored to life. In both cases a trance more prolonged than usual was taken for actual death."

Called Back to Life.

"The other instances," says the *Medical Times'* correspondent, "I give in the words of the Archbishop:—

"'The next case that occurred to me was at Bordeaux. A young lady, who bore one of the most distinguished names in the Department, had passed through what was supposed the last agony, and, as apparently all was over, the father and mother were torn away from the heartrending spectacle. As God willed it, I happened to pass the door of the house at the moment, when it occurred to me to call and inquire how the young lady was going on. When I entered the room, the nurse, finding the body breathless, was in the act of covering the face, and, indeed, there was every appearance that life had departed. Somehow or other, it did not seem to me so certain as to the bystanders. I resolved to try. I raised my voice, called loudly upon the young lady not to give up all hope—that I was come to cure her, and that I was about to pray by her side. "You do not see me," I said, "but you hear what I am saying." My presentiments were not unfounded. The word of hope I uttered reached her ear and effected a marvellous change, or, rather, called back the life that was departing. The young girl survived; she is now a wife, and mother of children, and this day is the happiness of two most respectable families.'

"The Archbishop mentioned another instance of a similar revival in a town in Hungary during the cholera of 1831, which he heard that day from one of his colleagues of the Senate, as they were mounting the staircase."

Archbishop's Startling Experience.

The last incident related by the Archbishop is so interesting, and made such a sensation, that it deserves to be repeated in his own words:—

"'In the summer of 1826, on a close summer day, in a church which was exceedingly crowded, a young priest, who was in the act of preaching, was suddenly seized with giddiness in the pulpit. The words he was uttering became indistinct; he soon lost the power of speech, and sank down on the floor. He was taken out of the church and carried home. All was thought to be over.

Some hours after, the funeral bell was tolled, and the usual preparations made for the interment. His eyesight was gone; but if he could see nothing, like the young lady I have alluded to, he could hear, and I need not say that what reached his ears was not calculated to reassure him. The doctor came, examined him, and pronounced him dead; and after the usual inquiries as to his age and the place of his birth, etc., gave permission for his interment next morning. The venerable bishop, in whose cathedral the young priest was preaching when he was seized with the fit, came to his bedside to recite the "De Profundis." 'The body was measured for the coffin. Night came on, and you will easily feel how inexpressible was the anguish of the human being in such a situation. At last, amid the voices murmuring around him, he distinguished that of one whom he had known from infancy. That voice produced a marvellous effect and superhuman effort. Of what followed I need say no more than that the seemingly dead man stood next day in the same pulpit. That young priest, gentlemen, is the same man who is now speaking before you, and who, more than forty years after that event, implores those in authority, not merely to watch vigilantly over the careful execution of the legal prescriptions with regard to interments, but to enact fresh ones in order to prevent the recurrence of irreparable misfortunes.'"

Again Discussed but Nothing Done.

To this report of the *Medical Times*, it may be added that the petition of M. de Carnot furnished statistics showing the frequency of these terrible disasters, and suggested various preventive measures, including the establishment of mortuaries, a longer interval between death and burial, and the application of scientific methods of restoration where decomposition is not manifest. The reality of the terrible dangers, as pointed out by Cardinal Donnet, was confirmed by Senators Tourangin and Viscount de Baral, in the recital of other cases of premature interment.

When the subject was revived in the Senate on January 29, 1869—on which occasion five petitions were presented, urging important reforms, and detailing other cases of premature interment—Cardinal Donnet again took part in the debate, and urged that no burial should be permitted without the signature of a doctor or officer of health, as well as the written authorisation of the Mayor, so that the fact of death might always be verified. The Cardinal then furnished particulars of another recent case of premature interment in l'Est, and recalled the fact that one of their honourable colleagues of the Senate, M. le Comte de la Rue, had had a narrow escape from live sepulture.

The several petitions were forwarded to the Minister of the Interior, but nothing was done to remedy the evil.

Medical Experiences.

'Dr. Brewer," says the *Lancet*, of June 2, 1866, p. 611, "in the course of the address delivered to the Guardians of St. George's at St. James's Hall, adverted to the 'laying-out' case at St. Pancras, and dwelt upon the question of suspended animation in a passage which really deserves to be quoted."

"I have been more than once under a condition of apparently suspended respiration, and with circumstances less comfortable than those related of this babe; and yet, active as is my brain, and sensitive as is my body, I remember as well as though it were but yesterday that, on being restored to consciousness, no feeling of discomfort of any kind attended my experience on either occasion. It is under the truth to say I have known a score of cases of those who have been supposed dead being reanimated. It is not many months ago a friend of mine, a rector of a suburban parish, was pronounced by his medical attendant to be dead. His bed was

arranged, and the room left in its silence. His daughter had re-entered and sat at the foot, and the solemn toll of his own church bell was vibrating through the chamber, when a hand drew aside the closed curtain, and a voice came from the occupant of the bed—'Elizabeth, my dear, what is that bell tolling for?' The daughter's response was, perhaps, an unfortunate one: '*For you, Papa.*'"

Dr. B. W. Richardson quotes a case in the *Lancet*, 1888, vol. ii., p. 1179, of a man who, in 1869, was rendered cataleptic by a lightning-stroke, and who narrowly escaped living burial.

Dr. Franz Hartmann, in "Premature Burial," pp. 14-17, cites a remarkable case of an Englishman who "died" of typhoid fever and was buried, but four days after was exhumed and placed on the cold slab of the dissecting room; when an incision was made in the breast, the "dead man" suddenly awoke, and grasped the wrist of the anatomist. The Englishman subsequently published in *Blackwood's Magazine* an account of his terrible experience.

Dr. H. S. Tanner, in a letter in the *New York Times*, January 18, 1880, mentions two cases where persons awakened from trance at the moment of sepulture described in turn what their feelings had been. Said one:—

"Have you ever felt the paralysing influence of a horrible nightmare? If you have had such experience, then you are prepared to conceive of the mental agonies I endured when I realised that my friends believed me dead, and were making preparations for my burial. The hours and days of mental struggle spent in the vain endeavour to break loose from the vice-like grasp of this worse than horrible nightmare was a hell of torment such as no tongue can describe or pen portray."

Dr. Johnson, of St. Charles, Illinois, is the other instance mentioned by Dr. Tanner, who in his hearing, and in the presence of a large audience in Harrison's Hall, Minneapolis, stated that when a young man he was prostrated with a fever. He swooned away, apparently dead. His attending physician said he was dead. His father was faithless and unbelieving, and refused to bury him. He lay in this condition, apparently dead, fourteen days. The attending physician brought other physicians to examine the apparently lifeless form, and all stated unqualifiedly, "He is dead." Some fourteen physicians, among them many eminent professors, examined the body, and there was no ambiguity in the expression of their conclusion that the boy was dead. But the father still turned a deaf ear to all entreaties to prepare the body for the grave. Public feeling was at last aroused. The health officer and other city officers, acting in their official capacity, and by the advice of physicians, peremptorily demanded that the body be interred without delay. On the fourteenth day the father yielded under protest; preparations were made for the funeral, when the emotions of the still living subject, who was conscious of all transpiring around him, were so intense as to be the means of his deliverance. He awoke from his trance.

Dr. O'Neill, of Lincoln, writes to the *Lancet*, June 7, 1884, p. 1058:—

"Without venturing to express an opinion on the case mentioned by the Rev. D. Williams[1] in the *Lancet* of the 24th inst., I would beg to say that I have no doubt

[1] The case referred to, being attended with doubt, is omitted.

in my own mind but that people are sometimes 'buried alive.' An instance has come to my knowledge where this catastrophe was only avoided by a mere accident. A lady, about forty-five years of age, the wife of a clergyman in a northern county, was taken ill, and after some time, as was supposed, died. The funeral was delayed, and so was the closing of the coffin, in consequence of the absence of a son of the lady from home. When the boy arrived, the kissing, wailing, and commotion roused the supposed dead woman, and brought her to consciousness in her coffin. This lady would most probably have been buried alive were it not that the obsequies were delayed on account of the circumstance mentioned.

"Now, may not cases more or less similar to this sometimes occur, with the catastrophe of 'buried alive' added to them? But no such case could happen if it were made compulsory that the interment of a body should not be allowed to take place until after decomposition had set in, as attested by a medical man."

Dr. Moore Russell Fletcher in "Suspended Animation and the Danger of Burying Alive," p. 62, writes :—

"'Seven hours in a coffin added ten years to my life,' was the remark of Martin Strong, of Twelfth Street, Philadelphia, some time after quitting the coffin in which his family had placed him for burial, after Dr. Cummings had given a certificate of his death. Frank Stoop, of Clarinda, Iowa, was laid out for burial not long since, a physician having certified to his death; but fortunately he awoke from his state of coma in time to save his life."

On p. 26, Dr. Fletcher cites another remarkable case:—

"In June, 1869, a girl in Cleveland, Ohio, was taken ill, and after a short sickness died, and was laid out for burial; but as her mother insisted that she was not dead, efforts were made for some time to restore her to life, but in vain. Her mother, however, refused to let her be buried; and on the fifth day after that set for the funeral the slamming of a door aroused her, so that she recovered. She stated that, during most of the eight days which she lay there, she was conscious, and heard what was said, although wholly unable to make the least motion."

Dr. Colin S. Valentine, LL.D., Principal of the Medical Missionary Training College, Agra, N.W.P., told the author during his visit to Agra, February, 1896, that Captain Young, an officer in the regiment of which he (Dr. Valentine) was at that time army surgeon, who had been dreadfully mauled while tiger-hunting in Madras, was laid out for dead, and all the arrangements were made for his funeral at six o'clock that evening, when consciousness returned, and he lived for twenty years after.

Dr. A. Stephenson, in a lecture on the "Signs of Death and Disposal of the Dead," delivered at Nottingham, January 9, 1896, said he once attended a girl living in that locality who was in a trance. All the preparations were made for her funeral, and the grave ordered. She remained in a trance three days, and her mother was annoyed because he would not sign her death-certificate. On the third day she slowly rose and recovered. The girl would have been buried unless he had had a very great fear of her being buried alive.

Danger in Wasting Diseases.

Medical literature contains reports of numerous instances of collapse and apparent death in times of

epidemics, such as plague, cholera, and small-pox. The danger is increased by the anxiety and necessity for speedy interment, owing to the usually overcrowded condition of hospitals and mortuaries and the fear of the spread of infection. Premature burial becomes a real danger, and the cases of narrow escape during these periods of panic are innumerable.

A solicitor, living in Gloucester, recently informed the editor that, when first in practice, he had as caretaker of his offices an old woman who, with her husband, had been in charge of the cholera wards, erected just outside the city, at the time of the severe epidemic of 1849, when, in Gloucester alone, there were 119 fatal cases. She told him that as soon as the patients were dead they put them in shells and screwed them down, so as to get them out of the way as quickly as possible, as the small sheds (which are still standing) were so crowded. "Sometimes," she callously remarked, "they come to afterwards, and we did hear 'em kicking in their coffins, but we never unscrewed 'em, 'cause we knew they'd got to die!"

Narrow Escapes in Cholera.

Dr. Chew communicated the two following cases to the author during his sojourn in Calcutta in the early part of 1896:—

"In March, 1877, Assistant-Surgeons H. A. Borthwick, S. Blake, H. B. Rogers, and myself received orders to proceed from Rawal Pindi by bullock-train to Peshawur to join the various regiments we were to be posted to for duty. We had just passed a place called Rati when Borthwick showed strong symptoms of cholera, from

which he suffered all that night. The nearest hospital was twenty-five miles behind us, and though we had neither medicines nor sick-room comforts with us, we had no alternative but to journey onwards, because the train-drivers (Indians) refused to turn back, and if we did return to Rawal Pindi we would have been court-martialled for disobeying lawful commands and coming back without orders to do so. Travelling by bullock-train is very slow work, and far from a comfortable mode of transit; however, we were obliged to make the best of it, and early next morning Borthwick was cold, stiff, and seemingly dead. Here was a fine state of affairs —the nearest cantonment, which we had no expectation of reaching (*i.e.*, Nowshera) before nine p.m., was thirty-six miles off, and by the time we arrived at it, it would have been too late to approach the authorities, while Peshawur, our destination, was another twenty-nine miles further off. Dispose of the body we dare not, and we had no choice but to continue our route. All that day there was not a movement or other sign to show that life was not extinct, and affairs seemed no better by five p.m. next day, when we reached Peshawur. The apparent corpse was lifted out of the bullock-train and carried into the hospital dispensary (where a strong fire was blazing) preparatory to papers being signed and arrangements made for its final disposal. Whether it was the heat of the fire before which he was placed, or whether the vibriones had produced an antitoxin, I am not prepared to argue; but *we do know* that Borthwick recovered consciousness while lying on the bed in that dispensary, and that he whom we mourned as dead returned to life. He served in the same military stations with me in the

North-West Frontier till 1880, when he accompanied me to the Calcutta Medical College, where we parted company in February, 1882, I bound for Egypt and he for frontier duty. At first we corresponded regularly, but since 1885 we have lost touch of each other."

"When the East Norfolk regiment was out cholera-dodging in 1878, Colour-Sergeant T. Hall and Corporal W. Bellomy were sent into cantonments for burial as cholera corpses in the Nowshera Cemetery. There was some delay in the interment owing to a difficulty in obtaining the wood necessary for their coffins, so both bodies were placed in the dead-house, which was generously sprinkled with disinfectants to ward off the risk of contagion. First Hall and then Bellomy regained consciousness, and were duly returned to duty. The following year Bellomy was 'invalided' to England, where I understand he now enjoys the best of health."

The *Undertakers' Journal*, May 22, 1895, has the following:—

"The Reverend Harry Jones, in his reminiscences, and as a London clergyman, declares his conviction that in times of panic from fatal epidemics it is not unlikely that some people are buried alive. Mr. Jones recalls a case within his knowledge of a young woman pronounced to be dead from cholera, and actually laid out for the usual collecting cart to call from the undertakers, when a neighbour happened to come in and lament over her. The story continues thus: 'And is poor Sarah really dead?' she cried. 'Well,' said her mother, 'she is, and she will soon be fetched away; but if you can do anything you may do it.' Acting on this permission, the practical neighbour set about rubbing Sarah profusely with mustard. Sarah sat up, stung into renovated life, and so far recovered as to marry: 'and I myself,' says Mr. Jones, 'christened four or five of her children in the course of the next few years.'"

Narrow Escapes in Small-pox.

I remember an incident under this head I was able to verify, which caused some sensation at the time, occurring during the Gloucester small-pox epidemic, in the early part of 1896. A child, believed to be dead of confluent small-pox, was removed from one of the small-pox hospital wards to the mortuary, and next day an attendant passing by heard a child crying, and gave warning to one of the nurses. The little one was promptly carried back to the ward, and recovered.

The *Lancet* of June 21, 1884, p. 1150, publishes the following particulars from a London clergyman :—

"I send you privately names and addresses, by means of which you can test, if you please, the accuracy of the following statements, which I forward for insertion in your journal :—

"Some years since, a young man who had been attacked by small-pox was declared by the medical man to be dead, and was laid out for burial. The nurse, however, on paying a visit to the supposed corpse, thinking there was something uncorpse-like about its appearance, put a wine-glass over the mouth, and returning in a quarter of an hour found it dimmed with breath. He was resuscitated, and, so far as I am aware, is still living. He would now be about forty-five. He is a farmer.

"A mother and her baby were ill of small-pox, and seemed likely to die. The grandmother, however, made the nurse promise that if death appeared to ensue, and even if the medical man pronounced either or both to be dead, she would put additional blankets on the one or both, and leave them so till her (the grandmother's) return, which would not be till the next day. They both appeared to die, and were declared dead by the doctor; but the nurse did as she had promised, and the next day, when the grandmother returned, they were both alive, and were both living not very long since.

"Some twenty years ago, I was told that about forty years previously a young man, in a parish where I was acquainted, was put in a coffin as a person dead of small-pox; but when the bell was tolling for his funeral, and he was about to be 'screwed down,' he got up and vacated the coffin, and lived several years afterwards.

"The haste with which small-pox corpses are disposed of now-a-days is to be deprecated. The only sure proof of death is decomposition, and a law ought to be passed forbidding burial until signs of it have appeared. Not very long since I was in a churchyard where a drain was being made round the church, and was not a little struck with the horrified look of a labourer who came to the vicar and stated that they had come on a skull face downward, which, he said, put it beyond doubt that the person it had belonged to had turned in his coffin after burial."

Consumption and Epilepsy.

The *Lancet* for July 23, 1888, cites the following remarkable case:—

"The following details are given by the Cincinnati correspondent of the *New York Herald* from Memphis, Tennessee:—Mrs. Dicie Webb keeps a grocery store on Beale Street, and is well known to hundreds. Two years ago John Webb, a son of Mrs. Webb, married Sarah Kelly, a pretty girl, to whom the mother-in-law became greatly attached. Before one year of their married life had passed, Mrs. Webb, jun., was stricken with consumption, and on several occasions came near dying. About a month ago the young woman became very anxious to visit her parents in Henderson County, and she was taken there. At first she appeared much improved, and hopes were felt that her life might be preserved through the summer, but two weeks ago last Tuesday a telegram announced her death, and the husband hurried to her parents' home. Three days later he returned with the corpse. The mother-in-law pleaded so hard for a sight of the dead woman that finally, despite the belief that the body was badly decomposed, it was decided to open the coffin. While looking at the placid face,

Mrs. Webb was terrified at beholding the eyelids of the dead woman slowly opening. The eyes did not have the stony stare of death, nor the intelligent gleam of life. Mrs. Webb was unable to utter a sound. She could not move, but stood gazing at the gruesome sight. Her horror was increased when the supposed corpse slowly sat upright, and, in an almost inaudible voice, said, 'Oh, where am I?' At this the weeping woman screamed. Friends who rushed into the room were almost paralysed at the sight, and fled shrieking. But one bolder than the others returned and spoke to the woman, who asked to be laid on the bed. Hastily she was taken from the coffin and cared for. In the course of the day the resurrected woman fully regained her mental powers. The day following she related a wonderful story. She said she was cognisant of all that occurred, and did not lose consciousness until she was put aboard the train for Memphis. Soon after being placed in her mother-in-law's house she came to her senses and knew all that was passing. While her mother-in-law was looking at her she made a supreme effort to speak. Mrs. Webb lived a number of days, when she again apparently died. The doctors pronounced her dead, and she was once more placed in the coffin. While the mother-in-law was taking her final farewell she heard a voice whisper, 'Mother, don't cry.' Looking into the girl's face, she saw the same look that she had noticed before. She called for help, and several women responded. Some one cried, 'Shake her; she's not dead.' In the excitement of the moment, the women, it is thought, shook the life out of the poor consumptive, and last Saturday she was buried. The family and friends have endeavoured to keep the matter quiet."

From the *Echo*, London, May 13, 1893.

"A woman at Limoges has just had a narrow escape of being buried alive here. She was subject to epileptic fits, and during one of these a few days ago was pronounced to be dead. The arrangements for interment were made in due course, and as the coffin was being borne into the church some of the mourners said they heard a knocking inside. The party listened, and distinct taps were heard. No time was lost in wrenching off

the lid of the coffin. It was then found that the woman was alive and conscious, although terribly frightened at the awful ordeal through which she had passed. A doctor was quickly in attendance, and under his direction the supposed corpse was removed from the coffin and placed on a litter for conveyance home again."

A Strange Bit of Personal History.

Dr. R. G. S. Chew, of Calcutta, writing to the author, says:—"In 1873 I was a student in the Bishop's High School, Poonah (Bombay Presidency), where I used to be generally at the head of my class, and when competing for the Science Prizes I was fully determined to take the first prize or none. The Reverend Mr. Watson, Rector of St. Mary's Church and Chaplain to our school, knew my disposition, and cautioned me against being too sanguine, lest disappointment might tell very keenly. The disappointment came, and with it much nervous excitability. Shortly after this (Christmas, 1873) my favourite sister was seized with convulsions that carried her off. From the moment of her decease to nearly a month after her interment I entirely lost the power of speech. On the day of the funeral I was parched with thirst, but could not drink, as the water seemed to choke me. My eyes were burning and my head felt like bursting, but I could neither sob nor cry. I felt quite dazed, and followed the procession to the cemetery, where I stood motionless by the open grave; but as soon as they lowered the little coffin into its resting-place I threw myself headlong into the grave and fainted away. Some one pulled me out and carried me home, where I

lay in a sort of stupor for nine days, during which Dr. Donaldson attended me most patiently, and I regained consciousness, but was too weak to even sit up in bed. On the 16th January, 1874, I felt a peculiar sensation as of something filling up my throat—no swelling, no pain nor anything that pointed to throat affection—and this getting worse and worse, in spite of everything, I *died*, as was supposed, on the 18th of January, 1874, and was laid out for burial, as the most careful examination failed to show the slightest traces of life. I had been in this state for twenty hours, and in another three hours would have been closed up for ever, when my eldest sister, who was leaning over the head of my coffin crying over me, declared she saw my lips move. The friends who had come to take their last look at me tried to persuade her it was only fancy, but as she persisted, Dr. Donaldson was sent for to convince her that I was really dead. For some unexplained reason, he had me taken out of the coffin and examined very carefully from head to foot. Noticing a peculiar, soft, fluctuating swelling at the base of my neck, just where the clavicles meet the sternum, he went to his brougham, came back with his case of instruments, and, before any one could stop him or ask what he was going to do, laid open the tumour and plunged in a tracheotomy tube, when a quantity of pus escaped, and, releasing the pressure on the carotids and thyroid, was followed by a rush of blood and some movement on my part that startled the doctor. Restoratives were used, and I was slowly nursed back to life; but the tracheotomy tube (I *still* carry the scar) was not finally removed till September, 1875."

Why She was Haunted.

A lady, distinguished alike for her literary gifts as well as for her philanthropy, sends me the following :—

"I am much obliged to you for sending me 'Perils.' It is a terrible subject, and one that has haunted me all my life, insomuch that I have never made a will without inserting a clause requiring my throat to be cut before I am put underground. Of course, one can have no reliance on doctors whatever, and I have myself known a case in which a very eminent one insisted on a coffin being screwed down because the corpse looked so life-like and full of colour that the friends could not help indulging in hopes.

"My great-grandmother, after whom I am called, a famous heiress, was a notable case of narrow escape. As a girl she passed into a state of apparent death, and a great funeral was ordered for her. Among the guests came a young girl friend, who insisted that she was not dead, and raised such a stir that the funeral was postponed, and time was allowed to pass till the marvel became that there were no signs of change. I could never ascertain how long this comatose state lasted before she recovered ; but she *did* recover, so thoroughly that after her marriage with Richard Trench, of Garbuly, she became the mother of twenty-two children. Obviously this was no case of a feeble, hysterical, cataleptic subject. I will enclose photograph taken from a miniature of her in a ring in my possession.

"There was another case, well known in Ireland in my youth, of a Colonel Howard, who had a fine place (I think it was called Castle Howard) in Wicklow. He was supposed to be dead, and a lead coffin was actually

made with his name and date of death on it; after which Colonel Howard came to life, and had the plate of the coffin fixed over his kitchen chimney as a warning to his servants not to bury people in a hurry."

Startling Resurrections.

From the London *Echo*, March 3, 1896.

"A letter from Constantinople, in the *Politische Korrespondenz*, gives a remarkable case of an apparent death which would have ended in a premature burial but for the high ecclesiastical position of the person concerned. On the 3rd of this month, Nicephorus Glycas, the Greek-Orthodox Metropolitan of Lesbos, an old man in his eightieth year, after several days of confinement to his bed, was reported by the physician to be dead. The supposed dead bishop, in accordance with the rules of the Orthodox Church, was immediately clothed in his episcopal vestments, and placed upon the Metropolitan's throne in the great church of Methymni, where the body was exposed to the devout faithful during the day, and watched by relays of priests day and night. Crowds streamed into the church to take a last look at their venerable chief pastor. On the second night of "the exposition of the corpse," the Metropolitan suddenly started up from his seat and stared round him with amazement and horror at all the panoply of death amidst which he had been seated. The priests were not less horrified when the 'dead' bishop demanded what they were doing with him. The old man had simply fallen into a death-like lethargy, which the incompetent doctors had hastily concluded to be death. He is now as hale and hearty as can well be expected from an octogenarian. But here it is that the moral comes in. If Nicephorus Glycas had been a layman he would most certainly have been buried alive. Fortunately for him, the Canon Law of the Orthodox Church does not allow a bishop to be buried earlier than the third day after his death; whereas a layman, according to the ancient Eastern custom, is generally buried about twelve hours after death has been certified. The excitement which has been aroused by the prelate's startling resurrection may tend to

set men thinking more seriously about the frequent probability of the cruel horror of the interment of living persons."

The above-mentioned facts have been authenticated for the author by Dr. Franz Hartmann, of Hallein, Austria.

Speaking on the subject of premature burial the other day, a well-known London publisher told the author that he personally knew a lady, the daughter of a British Consul, who had been taken for dead on two separate occasions. On the first occasion the lady had been placed in her coffin, and the lid screwed down ready for interment. A friend who had known the supposed deceased called to condole with the family, and said—"I should like to have a last look at dear L——, if you will only permit me." The lid was accordingly removed, and the visitor detected, as it seemed to her, signs of life in her friend; she was taken out of her coffin, put in a warm bath, and recovered. Some years later the same lady fell into a cataleptic state after a fever, and was taken for dead. Preparations had been made for the funeral in both instances, but delayed beyond the usual time for interment. She returned to consciousness, and is now living.

Equally remarkable is a case quoted by the *British Medical Journal*, March 12, 1892, p. 577.

"The *Temps* publishes a case of premature burial prevented by the daughter of the supposed dead man, who, on kissing her father, perceived that his body was not cold. The funeral *cortège* was on the point of starting. Suitable measures restored the man to consciousness, and he opened his eyes and uttered one or two words. His condition is serious, but he is alive. This incident occurred at Vagueray, near Lyons."

Strange and Varied Experiences.

The *Daily Telegraph*, January 26, 1889, reports :—

"A Rochester correspondent telegraphs that a woman named Girvin, living at Burham, near Rochester, has just had a narrow escape of being buried alive. She fell into a kind of trance, which was mistaken for death. The coffin was ordered, and the usual preparations made for a funeral. But while a number of the relatives were gathered at the bedside bewailing their bereavement, the supposed corpse startled them by suddenly rising up in bed and asking what was the matter. The woman is making good progress towards convalescence."

And on July 6, 1889, the same journal says :—

"Our St. Leonards correspondent telegraphs :—About a week ago the wife of a well-known tradesman in St. Leonards fell ill, and on Monday night last the doctor gave his opinion that she could not live through the next day. On Tuesday morning at ten o'clock the doctor pronounced his patient dead, the nurse who was in attendance confirming the opinion. The intimation of death naturally created great distress among the friends of the woman, who was laid out in grave-clothes, washed, and prepared for burial, and, being a Roman Catholic, a crucifix was placed in her hand as she lay on her bier. When it was announced that the woman was dying, a priest was sent for ; but he could not attend, as he was out of the town at the time.

"About a quarter to ten on Tuesday night the nurse entered the room without a light for the purpose of getting something which she knew where to find. Whilst in the darkened chamber she was startled to hear a slight cry proceeding from the bed where the body lay, and she rushed from the room in a terrible fright. The widower, hearing the scream of fright, rushed into the chamber with a light, and was astounded to find that his wife had raised herself up in the bed on her elbow. She faintly uttered the words, 'Where am I?' and again relapsed into a heavy sleep. The opportunity was seized of changing the shroud for proper habiliments, and in about an hour and a half she woke again perfectly conscious. Next morning she was told of what had occurred, but

was quite ignorant of everything that had passed, thinking she had only had a long sleep. She is now doing well, and it is hoped she will soon be restored to health and strength. The doctor describes the case as the most remarkable he has ever met with in his experience."

The *Echo*, January 1895, tells the story of a woman's awful experience :—

"An extraordinary affair is reported from Heap Bridge, Heywood. Yesterday a woman was supposed to have died, and she was washed, laid out, and measured for her coffin, a piece of linen being placed over her mouth. Eight hours later, however, as two women were engaged in the room, the supposed corpse blew the linen away, and raised herself up in bed. The two women were terribly frightened, and in their hasty retreat both tumbled downstairs, and are now suffering from slight injuries, as well as shock. Some time elapsed before any one else could be induced to enter the house, but eventually several persons went in together, and found the woman still sitting up in bed. She was exceedingly weak. Later, however, she succumbed, and the doctor expressed the opinion that her death was accelerated by shock. During the night the woman conversed with her son, who had carried her upstairs for dead, and told him of the awful sensation she felt whilst unable to speak during the washing and laying out of her body."

The *Daily Telegraph*, London, December 12, 1893, mentions the following weird occurrence :—

"Berlin, December 11.

"From Militsch, in Silesia, an extraordinary case of trance is reported. It seems that, owing to the grave not being in readiness, some delay occurred in the burial of a lady (the wife of a major in the army) who to all appearance had died. On the fourth day after the lady's supposed death the maid was placing fresh flowers round the coffin, when she was much startled at seeing the body move, and finally assume an erect position. The lady had evidently been in a state of coma during the past four days, and narrowly escaped being buried alive."

Gruesome Details.

How near a person may be to a terrible and ghastly death-struggle for a brief period, in which a lifetime seems concentrated amid the hopelessness and helplessness of despair, can, to some extent, be measured by the records of the apparently fateful accidents which have, at the last moment, saved the sufferers from their awful doom.

A medical correspondent writes to *Cassell's Magazine*, September 20, 1896, as follows :—

"I once witnessed a curious case of rescue from premature burial. The patient was a young woman of nervous temperament, who was greatly affected by the death of her brother. On the day of the funeral, while standing by the coffin, she suddenly fell as one dead. Several physicians present declared she had died from heart-failure. When called, I insisted that the young woman was alive. Applying the stethoscope to her heart, I ultimately observed a slight indication of life. Equally slight indications were apparent at various nerve-centres. After two days' treatment the young woman spoke. She described all that had occurred around her, even her sensations as the doctors were debating as to the reality of her death. But she could not contrive to indicate the terror she felt at the thought of the terrible fate which awaited her should her condition remain undiscovered."

Again *The Morning Leader*, December 9, 1901, reports a telegram thus :—

"Lisbon, Sunday.

"Donna Maria Gavazzo has had a marvellous escape from being buried alive, under circumstances which are to say the least mysterious.

"It was announced that she was dead, and the interment was to have taken place to-day. At the cemetery the last funeral rites were being performed over the bier, when the officiating priest believed he heard a sigh proceeding from the coffin.

"At his direction the coffin was at once opened, when it was found that Donna Maria was alive.

"A further inquiry into the details of the case will certainly be necessitated."

The *Westminster Gazette*, March 16, 1901, states :—

"A narrow escape from being buried alive is reported from Tulle. A girl, who had been ill for some time, fell into a state of coma. On Sunday night respiration ceased, the body became cold, and she was, to all appearance, dead. She was accordingly laid out in her best clothes, and her grave and coffin were ordered, when, to the terror of her relatives, the supposed corpse began to move, and a few minutes later sat up. She had a fit when she was told it was thought she was dead. It is now expected she will recover.—*Dalziel.*"

Mr. Thomas W. Wright, of Avenue House, Holly Park, Crouch Hill, N., writes as follows, May 2, 1901 :—

"I know of two or three cases, one of a woman who has now reached a great age, who, when she was about thirty years old, was about to be 'screwed down' in her coffin, but fortunately moved in time to prevent the undertakers from completing their work. I don't know much about the question, but it seems to me that medical men are much to blame when they sign certificates of death without taking the trouble to see whether their patient is dead ; a serious fine or imprisonment in cases of such negligence might perhaps check the custom."

These are sentiments with which every thinking person will cordially agree.

CHAPTER VI.

FORMALITIES AND THEIR FATAL CONSEQUENCES.

WHENEVER graveyards have been removed, owing to the rapid expansion of towns, in America, or examined elsewhere, unmistakable evidences of premature burial have been disclosed, as will be seen in this volume; bodies have been found turned upon their faces, the limbs contorted, with hair dishevelled, the clothing torn, the flesh mutilated, and coffins broken by the inmates in their mad endeavour to escape after returning consciousness, to terminate life only in unspeakable mental and physical agonies. It may be said that every graveyard has its traditions, but the facts are carefully concealed lest they should reach the ears of the relatives, or incriminate the doctors who had with such confidence certified to actual deaths which were only apparent. It is not, however, the custom to remove graveyards in Europe until all possibility of such discoveries has disappeared. To reopen a grave is to break the seal of domestic grief. There is a widespread belief that where a coffin, with a duly certified corpse—dead or alive—has been screwed up, it must not be opened without an authorization from a magistrate, mayor, or other official, and many people have been suffocated in their coffins while waiting for this formality. Common sense, under the circumstances, seems to be often paralysed.

According to English Law.

In England it has been decided, Reg. *v.* Sharpe (1 Dearsley and Bell, 160), to be a misdemeanour to disinter a body without lawful authority, even where the motive of the offender was pious and laudable; and a too rigorous interpretation of this and similar enactments in other countries has led to the suffocation of many unfortunate victims of a mistaken medical diagnosis, whose lives, by prompt interposition, might have been saved.

They Waited for the Key.

Köppen, in his work, entitled "Information Relative to Persons who have been Buried Alive," Halle, 1799, dedicated to His Majesty the King of Prussia, Frederick William III., quotes the following amongst a large number of cases of premature burial:—"In D——, the Baroness F—— died of small-pox. She was kept in her house three days, and then put in the family vault. After a time, a noise of knocking was heard in the vault, and the voice of the Baroness was also heard. The authorities were informed; and instead of opening the door with an axe, as could have been done, the key was sent for, which took three or four hours before the messenger returned with it. On opening the vault it was found that the lady was lying on her side, with evidences of having suffered terrible agony."

They all Waited for One Another.

Struve, in his essay on "Suspended Animation," 1803, p. 71, relates the following:—"A beggar arrived late at night, and almost frozen to death, at a German village,

and observing a schoolhouse open, resolved to sleep there. The next morning the schoolboys found the poor man sitting motionless in the room, and hastened, affrighted, to inform the schoolmaster of what they had seen. The villagers, supposing the beggar to be dead, interred him in the evening. During the night the watchman heard a knocking in the grave, accompanied by lamentations. He gave information to the bailiff of the village, who declined to listen to his tale. Soon afterwards the watchman returned to the grave, and again heard a hollow noise, interrupted by sighs. He once more hastened to the magistrate, earnestly soliciting him to cause the grave to be opened; but the latter, being irresolute, delayed this measure till the next morning, when he applied to the sheriff, who lived at a distance from the village, in order to obtain the necessary directions. He was, however, obliged to wait some time before an interview took place. The more judicious sheriff severely censured the magistrate for not having opened the grave on the information from the watchman, and desired him to return and cause it to be opened without delay. On his arrival, the grave was immediately opened; but, just Heaven! what a sight! The poor, wretched man, after having recovered in the grave, had expired for want of air. In his anguish and desperation he had torn the flesh from his arms. All the spectators were struck with horror at this dreadful scene."

They Waited for the Doctor.

An authentic case, on which Devergie has made an elaborate report ("Ann. d'Hyg.," 1870, 2, 310) occurred near Morlaix, in France. "A woman died, as it was

supposed, from cholera. She was seen while ill by a medical man, but not after the supposed death. She was placed in a coffin in an hour, and buried in sixteen hours. During the interment a noise was heard in the coffin. Time was lost in sending for a medical man, and the coffin was not opened until he arrived. The shroud was found twisted and folded about the neck and feet, as if struggles had been made, and there was a quantity of liquid on it, which had issued from the mouth and nostrils during efforts made to breathe. The body was warm, and the pulsations of the heart had not completely ceased, but it was too late, every effort at resuscitation failed."

They Waited for the Home Secretary.

The *Undertakers' Journal*, November 22, 1880, relates the following:—"An extraordinary story is reported from Tredegar, South Wales. A man was buried at Cefn Golan Cemetery, and it is alleged that some of those who took part in carrying the body to the burial-ground heard knocking inside the coffin. No notice was taken of the affair at the time, but it has now come up again, and the rumour has caused a painful sensation throughout the district. It is stated that application has been made to the Home Secretary for permission to exhume the body."

They Waited for the Priest.

Dr. Franz Hartmann, in his "Premature Burial," pp. 10 and 44, relates the two following cases:—"In the year 1856 a man died in an Hungarian village. It is customary there to dig the graves in rows. As the

gravedigger was making the new grave he heard sounds as of knocking proceeding from a grave where a man had been buried a few days previously. Terrified, he went to the priest, and with the priest to the police. At last permission was granted to open the grave; but by that time its occupant had died in reality. The fact that he had been buried alive was made evident by the condition of the body, and by the wounds which the man had inflicted upon himself by biting his shoulders and arms.

"They Waited for the Police.

"In a small town in Prussia, an undertaker, living within the limits of the cemetery, heard during the night cries proceeding from within a grave in which a person had been buried on the previous day. Not daring to interfere without permission, he went to the police and reported the matter. When, after a great deal of delay, the required formalities were fulfilled and permission granted to open the grave, it was found that the man had been buried alive, but that he was now dead. His body, which had been cold at the time of the funeral, was now warm and bleeding from many wounds, where he had skinned his hands and head in his struggles to free himself before suffocation made an end to his misery."

They Waited Five Hours for an Order.

A medical correspondent communicates to the author particulars of the following case, which occurred at Salzburg, Austria:—"Some children were playing in the Luzergasse Cemetery, and their attention was attracted

by knocking sounds in a newly-made grave. They informed the gravedigger of it, and he secured permission to open the grave from whence the sounds seemed to come. A man had been buried there at two p.m. that day. The formalities of the permission to open the grave delayed it till seven p.m., when, on opening the coffin, the body was found to be bent completely over forwards, and was frightfully distorted and bleeding from places on the hands and arms, which seemed to have been gnawed by the man's own teeth. The medical experts who were called in to examine the case declared that the man had been buried alive."

They Waited for the Mayor.

From the *Undertakers' and Funeral Directors' Journal*, January 22, 1887:—"Another shocking case of premature burial is reported; the distressing incident took place at Saumur, in France. A young man suddenly died, at least to all appearance, and his burial was ordered to take place as soon as possible. The *croque-morts*, or undertaker's men, who carried the coffin to the grave, thought they heard a noise like knocking under its lid, yet, being afraid of creating a panic among the people who attended the funeral, they went on with their burden. The coffin was duly placed in the grave, but, as the earth was being thrown upon it, unmistakable sounds of knocking was heard by everybody. The mayor, however, had to be sent for before the coffin could be opened, and some delay occurred in the arrival of that official. When the lid was removed, the horrible discovery was made that the unfortunate inmate had only just died from asphyxia. The conviction is

spreading that the terrible French law requiring speedy interment ought to be modified without delay."

They Waited for the Magistrate.

Mr. William Harbutt, School of Art, Bath, writes to me, November 27, 1895:—"The copies of the pamphlet 'The Perils of Premature Burial,' by Professor Alex. Wilder, you kindly sent me are in circulation. Almost every one to whom I mention the subject knows some instances. One, a case at Radstock, twelve miles from Bath, where the bearers at the funeral heard noises inside the coffin, but were afraid to open it without the authority from a magistrate. When it was opened next day the appearance of the body showed that he had been coffined alive, and had had a terrible struggle to escape."

They Waited for the Local Authorities.

From the *Star*, London, May 13, 1895:—"A woman who was believed to have died the day before was being buried at Doussard, when the gravedigger, who was engaged in filling up the grave, distinctly heard knocking coming from the coffin. He called a man who was working near, and he came and listened, and heard the knocking also. It was then about nine o'clock in the morning. The knocking continued, and they listened for about half an hour, when it occurred to one of them that they ought to do something, so they went to inform the local authorities. The curé of the village was the first to arrive on the scene; but as no one had any authority to exhume the body the coffin was not taken up. All that was done was to bore some holes in the lid with a

drill in such a way as to admit of air. By mid-day all the necessary formalities had been gone through, and it was decided at last to open the coffin. This was done; but whether the unfortunate woman was still alive at this time is doubtful. Some of those present affirm that she was. They state that they saw a little colour come into her cheeks, and the eyes open and shut. One thing is certain—viz.: that when at half-past six in the evening it was finally decided to consult a doctor, the practitioner summoned declared that death had taken place not more than five or six hours before. It was thought that had the coffin been opened directly the sounds were heard the woman's life might have been saved, and she would have been spared hours of indescribable torture and suffering."

They Waited—But Were Prompt.

The Paris edition of the *New York Herald*, May 14, 1895, says:—"The case of the woman buried alive at Annecy, in the Haute-Savoie, the other day, has almost found a pendant at Limoges. A woman, belonging to the village of Lateric, died, to all appearance at least, a few days ago. After the body had been placed in a coffin, it was transported to the village church. On the way the bearers heard sounds proceeding from it, and at once sent for the mayor, who ordered it to be opened. The woman was found to be suffering from *eclampsia*, which had been mistaken for death by her relatives."

When will people learn to exercise common sense, and remember that life is more valuable than red tape, and the spirit of human pity and practical sympathy of greater moment than the lettter of English law?

CHAPTER VII.

PREMATURE BURIAL OF DOUBTFUL CASES.

THERE is a great and natural reluctance on the part of medical practitioners to admit that they have made mistakes in death-certification, particularly in any one of the various forms of death counterfeits, or suspended animation. It should be noted that amongst the lectures delivered on special occasions, such as the opening of the medical schools, the subjects of trance and the danger of premature burial are conspicuous by their absence; allusion to these subjects is of rare occurrence, nor does the study of this abstruse branch of medicine, so far as can be ascertained, form part of any medical curriculum. In the bibliography at the end of this volume, extensive as it is, I can hardly refer to a single instance. Dr. Franz Hartmann, whose work on "Buried Alive" has passed through two English and one German editions, informs me that the same reticence is observable in the medical schools of Germany.

Many medical men do not believe in death-trance. They declare that they have never seen such a case, and in their judgment, when a sick patient ceases to breathe, when volition is suspended, and the stethoscope reveals no signs of cardiac action, the death is real, and the case beyond recovery. But the reader will already have gathered, from the results of inquiry in many countries

disclosed in the foregoing pages, that such evidence is not in itself sufficient to justify the risk of possible live sepulture. There should be no sign, nor any collection of signs, deemed of sufficient weight, apart from the process of decomposition.

Was She Dead?

As an instance of the justifiable uneasiness caused by the neglect of this simple precaution, we quote from the *Medical Times*, London, 1860, vol. i., p. 65.

"A lady entering upon the ninth month of pregnancy died of pneumonia. All the other phenomena of death ensued, except that the colour of the face was unusually life-like. On the fifteenth day from that of death there was not the least cadaveric odour from the corpse, nor had its appearance much altered, and it was only on the sixteenth day that the lips darkened. The temperature of the atmosphere had undergone many changes during the time mentioned, but although there had been frost for a short period, the weather was in general damp and cold."

This lady may have been dead, but—she may not. What we maintain is, that the burial laws should have been such as to make it certain that she was dead before interment, by the appearance of general decomposition. And it must be obvious to the least reflective reader that in countries where burial follows quickly upon supposed death (as in Turkey, France, and Italy, some parts of Ireland, and throughout India), or where there is no compulsory examination of the dead (as in the United States or the United Kingdom), and amongst people like the Jews (since Jewish custom enjoins speedy interment), and especially in cases of sudden death (where attempts at resuscitation are rare), the number of premature burials may be considerable.

Death's Counterfeit.

We are not oblivious of the fact that a body may present the most life-like appearance for a considerable period—in one case on record as long as twenty-eight days—in spite of the presence of the usual signs of death. Taylor, in his standard work, "The Principles and Practice of Medical Jurisprudence," cites a case in point, well authenticated, in which, on the eighteenth day after every sign of respiration and circulation had ceased, the lips presented their usual red colour, and, although the body was in a warm room, there was no disagreeable odour and no cadaveric ecchymosis, neither was the slow cooling nor progressive rigidity observed. The reality of death, by the signs of putrefaction, did not become apparent until the twentieth day. The author, commenting upon this case, says:—"Had this patient fallen into the hands of ignorant nurses or attendants, instead of professional men, it is probable that the body might have been consigned to the grave in two or three days. Although, as the event subsequently proved, this would not have furnished another instance of the premature interment of a living person, yet the proper course in all doubtful cases is to wait until that doubt has been satisfactorily resolved by the appearance of the obvious signs of decomposition."

America's Ugly Regulation.

In the United States, while there is no law, as in France, enforcing burial within a prescribed number of days, it is the custom of civil authorities, under

regulations made by the Boards of Health, to compel interments, if delayed beyond a few days.

Particulars of the following case were sent me by a physician, January 17, 1894:—

"Mrs. John Emmons, of North Judson, Ind., was taken suddenly ill, and apparently died, a week ago. Her husband desired to keep the body for a few days, to make sure of death. It seems that her mother went into a trance for four days, rallied, and lived five years; also that her grandfather on her mother's side, after having been pronounced dead for six days, awoke, and lived for twenty-three years. Mrs. Emmons's body was kept until Saturday, when, on the demand of the physician and numerous residents, it was interred. During the time between Monday and Saturday the body did not become rigid. Mortification did not set in, and she was laid to rest without waiting for that, the surest of all tests, to take place. Many are of the opinion that the woman has been buried alive."

There are many cases like the above on record, in which, although there is no absolute proof of premature burial, there is strong presumptive evidence of it.

A London Illustration.

The following appeared in *Truth* (London), on May 23, 1895; it forms but an example of many similar instances of which the writer has heard:—

"The other day I gave a story showing the difficulty of obtaining a *post-mortem* examination after a doctor has once certified the cause of death. One of my readers caps it with a gruesome narrative of which this is the outline: A man lately died in London. The coffin had to be removed by rail, and was to be closed on the fourth day after the death. My informant, taking a last look at the deceased, was struck by the complete absence of all the ordinary signs of death at such a period. In particular, he states that there was no rigidity in any part of the body, and there

was a perceptible tinge of colour in the forehead. He went over to the doctor who had attended the deceased, described all the signs that he had observed, and begged him to come and look at the body before the coffin was closed. The doctor absolutely refused, saying that he had given his certificate, and had no doubt as to the man's death. The friend then suggested that he might himself open a vein and see if blood flowed, to which the doctor replied that, if he did so without the authority of the widow, he would be indictable for felony. 'Whereupon,' says my informant, who was only a friend of the family, 'I had to retire baffled, and let matters take their course.' Why on earth he did not take the widow into his confidence, or risk an indictment for felony by opening a vein on his own account, or even summon another doctor, he does not say. I trust that, should any friend of mine see my coffin about to be screwed down under similar circumstances, and find equal cause to doubt whether I am dead, he will summon up courage to stick a pin into me, and chance the consequences. This, however, has nothing to do with the doctor's responsibilities. It would seem that the medico in this case was either so confident in his own opinion as to decline even to walk across the road to investigate the extraordinary symptoms described to him, or else that he preferred the chance of the man being buried alive to the chance of having to admit he had made a mistake. Which alternative is the worst I do not know."

Caution in France.

The *Gaulois* (Paris), of May 16, 1894, contains the following, which manifests a laudable exception to the legal custom of enforcing speedy interment :—

"The funeral of the Comtesse de Jarnac, whose death was reported to have taken place on Saturday, was fixed for to-morrow, but it will probably be postponed. None of the usual signs of dissolution have appeared ; the face still retains its colour, and *rigor mortis* has not yet set in. Some hope is even entertained that the Comtesse may be simply in a state of catalepsy, and that the embolus, to which death was attributed, may have lodged in

the lungs, not in the heart, in which case it may merely have caused a stoppage of the circulation (*sic*). The body had not been placed in the coffin up to a late hour last night."

An Austrian Incident.

One of the authors was present on May 14, 1894, with a company of ladies and gentlemen gathered at a country mansion in the Austrian Tyrol for afternoon tea, when the conversation turned upon the subject of premature burial. Among other cases related, the host described that of one of his servants, a woman, who went to bed with toothache, a long scarf being wrapped around her face and neck. As she did not appear the following morning, our host entered her room, and found her, as he supposed, strangled to death by the scarf tightly wound about her neck. A doctor was summoned, when he found that the woman was warm and limp, her face soft and coloured as in life; yet, as there was no respiration or perceptible wrist-pulse, nor beating of the heart, he regarded her as dead, and thought it would be proper to bury her. The host had doubts, however, about the case, and, having decided to observe it further, he had the woman removed to an outhouse, where she remained three days longer without any change in her appearance or condition in any way. But as there was considerable impatience felt at the delay of the burial by the people on the estate, the host sent for two doctors to make a final examination of the woman, and decide as to the existence of life or death. The doctors found that no change had taken place—there was softness of the skin, colour in the face, limpness of the muscles, and an unmistakable warmth of the

body; but as there was an absence of apparent respiration and beating of the heart, they decided that the woman was dead, and urged her burial, which was done. They attributed the high temperature to the process of decomposition which they assumed was going on, though there was no odour of putrefaction noticed by anyone.

The possibility is that this woman was buried alive. And, in the present state of medical education on the subject of apparent death and the causes that bring it about, many physicians would have come to a like conclusion; but, as physicians generally know very little about it, they are not on their guard concerning its dangers.

A number of cases of apparent death that have survived—where there was strangulation from a scarf, as in this case—have been reported. The explanation in such cases is, that the presssure of the scarf around the neck keeps the venous blood from flowing down from the brain through the jugular veins, and the brain, in consequence, becomes saturated with carbonic acid gas from the detained venous blood, and a death-like stupor, caused by carbonic acid poisoning, ensues. Artificial respiration should in all such cases be resorted to.

A Poor Consolation.

A leading West End undertaker, whose letter is before me, writes under date of June 26, 1896, as follows:—"In my experience I have had but one case come under my personal observation where I had real uncertainty as to death being actually present, and that was an instance of the kind in which this calamity is

only likely, in my opinion, to occur. A girl who had been to work in Borwick's factory apparently fainted and died, and within a few days the friends buried her. When we came to close the coffin, there was no evidence of death, and we did not close it without having a doctor sent for, and receiving his assurance that she was dead. When reading the fatal cases which have come to light upon this subject, I must confess to looking back upon that instance with much fear, and it is but a poor consolation to me that the responsibility was not mine, but the medical man's.

Why the Sceptic Scores.

The foregoing cases are recorded because they are types of a class that nearly every physician, undertaker, clergyman, or other observer has met with or heard of, and the probabilities, having regard to the existing confusion and uncertainty of opinion on the signs of death, are on the side of apparent rather than real death. On the other hand, a medical correspondent informs the author that he is sceptical as to the reported cases of narrow escapes, as on more than one occasion his efforts to verify the facts have proved abortive. It must be admitted that there are difficulties in the way of such inquiries. If the subject of trance, or narrow escape from burial, is a lady, publicity injures her prospects of marriage; and if a young man, his reputation for business stability is endangered or prejudiced; so that this reticence on the part of relatives is hardly surprising. Such persons do not like their gruesome and unpleasant experiences to be talked about.

CHAPTER VIII.

PREDISPOSING CAUSES AND CONDITIONS OF DEATH-COUNTERFEITS.

THOSE who are most subject to the various forms of death-counterfeit are persons whose vocations exhaust the nervous force faster than the natural powers of recuperation, or who resort to narcotics and stimulants to counteract the physical depression consequent upon nervous exhaustion. Then there is the hysterical class—principally females, who take but little nourishment, and who allow their imaginations to run riot upon every gloomy subject which arrests them, until the nervous system becomes prostrate, and they fall into a state of lethargy. Those given to fainting, again, or those in whom the heart has practically failed from shock or loss of blood—as in recorded cases of soldiers dying upon the battle-field from wounds, and who have been brought back to life as long as twelve days afterwards. Plague, cholera, typhoid have been fruitful sources of such partial inhibition of the heart's action, and many are the gruesome narratives of burials of persons in a state of coma arising from such causes. One shudders to contemplate the possibilities and probabilities connected with the hasty burials during epidemics of the early part of last and the previous century, especially in cases where many bodies were hurried into a common grave.

Medical Experience.

In an address delivered by Dr. Alexander Wilder, as president, before a State medical society in the Hall of the House of Assembly in the State of New York, at Albany, he said :—

"We exhaust our energies by overwork, by too much excitement, overtaxing of the brain and nervous system, insufficient resting from labour, the use of tobacco, alcohol, and sedatives or anæsthetics, and by irregular and improper habits, which hasten the Three Sisters in cutting off the fatal thread. Apoplexy, palsy, epilepsy are thus likely to prostrate us at any moment: and catalepsy, to an extent of which few are aware, is not far from any of us."

Equally, if not even more likely, to be overtaken by these simulacra of death are the poor—the ill-fed, ill-conditioned, and overworked classes.

With regard to the causation of catalepsy, Dr. W. R. Gowers, in Quain's "Dictionary of Medicine," p. 216, says :—"Nervous exhaustion is the common predisponent; and emotional disturbance, especially religious excitement, or sudden alarm, and blows on the head and back, are frequent immediate causes. It occasionally occurs in the course of mental affections, especially in melancholia, and as an early symptom of epilepsy."

Fainting Fits.

Dr. James Curry, F.A.S., in his "Observations on Apparent Death," pp. 81, 82, referring to those conditions and diseases which predispose to death-

counterfeits, to which women are more liable than men, says:—"The faintings which most require assistance, and to which, therefore, I wish particularly to direct the attention of my readers and the public, are those that take place from loss of blood, violent and long-continued fits of coughing, excessive vomiting or purging, great fatigue or want of food, and likewise after convulsions, and in the advanced stage of low fevers. It is but seldom, however, that any attempt at recovery is made in such cases; and several reasons may be assigned for this, particularly the great resemblance that fainting fits of any duration bear to *actual death*, and the firm belief of the bystanders that the circumstances which preceded were sufficient to destroy life entirely."

The author continues, pp. 106, 107:—"Nervous and highly hysterical females, who are subject to fainting fits, are the most frequent subjects of this kind of apparent death; in which the person seems in a state very nearly resembling that of hibernating animals, such as the dormouse, bat, toad, frog, etc., which annually become insensible, motionless, and apparently dead, on the setting in of the winter's cold, but spontaneously revive on the returning warmth of spring. Here, by some peculiar and yet unknown circumstance, the vital principle has its action suspended, but neither its existence destroyed, nor its organs injured, so as absolutely to prevent recovery, if not too long neglected."

Cases in Point.

Dr. Franz Hartmann reports a case which occurred within half a mile of his residence, near Hallein, Austria:—"At Oberalm, near Hallein, there died the

widow of a Dr. Ettenberger, a lawyer. It was known that she had previously been affected with fits of catalepsy, and therefore all possible means were taken for the purpose of restoring her to life. All, however, were in vain, and her death appeared to be certain. On the third day, just before the hour appointed for the funeral, the family physician, Dr. Leber, bethought himself of trying some fresh experiments on the corpse, when the woman revived. She had been fully conscious all the time, and aware of all the preparations that were made for her funeral, although unable to make it known to others that she was still alive."

Dr. Hartmann says:—"In 1866, in Kronstadt, a young and strong man, Orrendo by name, had a fit and died. He was put into a coffin and deposited in the family vault in a church. Fourteen years afterwards, in 1880, the same vault was opened again for the purpose of admitting another corpse. A horrible sight met those who entered. Orrendo's coffin was empty, and his skeleton lying upon the floor. But the rest of the coffins were also broken open and emptied of their contents. It seemed to show that the man after awakening had burst his coffin open, and, becoming insane, had smashed the others, after which he had been starved to death."—*Premature Burial, p. 7.*

Bouchut, in "Signes de la Mort," p. 40, relates that "a lawyer at Vesoul was subject to fits of fainting, but kept the matter secret, so that the knowledge of it might not spread and interfere with his prospects of marriage; he only spoke confidentially of it to one of his friends. The marriage took place, and he lived for some time in good health, then suddenly fell into one

of his fits, and his wife and the doctors, believing him dead, had him placed in a coffin, and got everything ready for the funeral. His friend was absent, but fortunately returned just in time to prevent the burial. The lawyer recovered, and lived for sixteen years after this event."

Intense Cold.

M. Charles Londe, in "La Mort Apparente," p. 16, says:—"Intense cold, coincident with privations and fatigue, will produce all the phenomena of apparent death—phenomena susceptible of prolongation during several days without producing actual death, and consequently exposing the individual who could be restored to life to living burial"; and he further maintains it as an indisputable fact that every day people are thus interred alive.

Struve, in his essay on "Suspended Animation," p. 140, says:—"In no case whatever is the danger of committing homicide greater than in the treatment of persons who have suffered by severe cold. Their death-like state may deceive our judgment, not only because such persons continue longest apparently dead, but because the want of susceptibility of irritation is in many cases not distinguishable from real death. A man benumbed with cold burnt his feet, and had continued insensible to pain, nor did he feel this sensation till he warmed them at a fire. In this case it is evident that the susceptibility of irritation was destroyed, while vital power remained."

A story is told of a grenadier belonging to the Strassburg garrison, who was found frozen in the river

Ill; he was taken to the hospital, warmth was applied, and he survived. At Strassburg, according to Dr. Brouardel, on another occasion, a hospital attendant was found frozen, was resuscitated, and still continues his duties, which he has now performed for many years.

Influenza.

This is a malady that has been enormously rife all over the world during the past few years, and has baffled the efforts of physicians and sanitarians to arrest its progress: it is sometimes accompanied by conditions which can hardly be distinguished from catalepsy.

The *Lancet*, May 31, 1890, page 1215, states:—"The neurotic sequelæ of influenza seem engaging more attention abroad than at home, probably from their symptoms being more pronounced than on this side the Channel. 'Nona,' as it is called, if something more than the somnolence succeeding the exhaustion of influenza, has been thought in Upper Italy to have much in common with catalepsy—one case, indeed, amounting to the 'apparent death' of Pacini. This is reported from Como. The patient, Pasquale Ossola by name, had to all appearance died, and a certificate to that effect, after due consultation, was drawn up and signed. Already it wanted but an hour or so to the interment, when the 'corpse' began to move spontaneously and to exhibit signs of returning life. The relatives of the supposed dead man at once called in assistance, and though animation and consciousness, even to recognition, were restored, the resuscitation was not maintained, and the patient died. Fortunately, the funeral

had been arranged on the traditional lines, and the faint chance of return to life was not extinguished by cremation."

SEDATIVES.

Referring to the supposed death of a girl, Sarola, aged eleven years, to whom chloroform had been administered in September, 1894, under peculiar circumstances, and the body hurried off to cremation, Dr. Roger S. Chew, of Calcutta, writes:—"That bottle of medicine was charged with having caused the death of little Sarola, who, I firmly believe, was *burned alive* while in a cataleptic condition induced by the hysterical convulsions, and rendered profound by the administration of the chloroform. Surgeon Lieutenant-Colonel Edward Lawrie agrees with me that at least ninety per cent. of the chloroform deaths are preventable if proper measures are adopted to resuscitate the body, and it is quite possible for a chloroform anæsthetic to be launched into eternity on the funeral pyre or in the suffocating earth. What a mournful vista Sarola's case opens up, and who can say how many hundreds have been similarly disposed of!"—*Communicated to the Author.*

Sir Benjamin Ward Richardson, on "The Absolute Signs and Proofs of Death," in the *Asclepiad*, first quarter, 1889, p. 9, says:—"In the first experiments made in this country with chloral, after the discovery of its effects by Liebreich, we learned that such a deep narcotism could be induced by this narcotic that it might be impossible to say whether an animal under its influence were alive or dead." And referring to cataleptic

trance due to shock, he observes, p. 11, "True traumatic catalepsy is equally remarkable, and equally embarrassing. It has been witnessed in the most destructive form after shock by lightning, and it may also have been met with after severe blows and contusions of the head."

CHOLERA.

Dr. Chew, referring to another of the predisposing causes of apparent death, and the danger of premature burial in India, says:—"In the cholera season there is a risk of a soldier being buried alive, as the custom is to get rid of the body as soon as possible, and it is very seldom indeed that a *post-mortem* is held on a cholera corpse. If the case be one of *true* cholera, decomposition sets in before the breath has entirely left the body, and, immediately life is extinct, putrefaction rushes forward so rapidly as to render a mistake impossible; but in choleraic diarrhœa or the lighter forms of cholera it is possible that coma resultant on extreme collapse may suspend animation so as to simulate real death *without* actual cessation of vital energy, and lead to live sepulture, except where, by some such lucky accident as the burial ground being a long journey off, the funeral is delayed sufficiently to give a chance of recovery. And this same accident may prove a salvation in syncope or coma from shock or protracted illness.

"With the civil population, save in very exceptional cases, there is very little chance of recovery from apparent death, as the time between alleged decease and sepulture is very short indeed; and unless there are unmistakable signs of trance, syncope, or coma, the victim must die *after he* (or she) *has been buried alive.*"

Cerebral Concussion.

Dr. Brouardel, Professor of Medical Jurisprudence, Paris, mentions a case which came under his own eyes while he was house-physician at La Pitié. He says:—"A little bricklayer, aged thirteen, was brought in one day, who had fallen from the sixth story to the pavement. The accident happened in the Rue de la Tournelle. The boy had been taken to a chemist, who pronounced him to be dead, and sent him on to the hospital. The director refused to admit him, as he was dead. Now, either by intuition or else to bamboozle the director, I stated that the lad was alive, although sounds of the heart could not be heard on auscultation. I had him put into a mustard bath, and, to my delight, he came to. He had received no wound, nor any definite injury, only he remembered nothing." The writer adds—"He might have been buried alive."

Drunkenness.

M. Bourneville cites the case of an old woman found in the street, who no longer breathed or gave any sign of life. Rectal temperature was 77° F. She was taken to hospital, where energetic treatment was employed, and she was restored to life. M. Laborde also mentions a case of a man picked up in a lifeless condition at the gate of the Bicêtre. His rectal temperature was 75° F. He eventually recovered.

Various Predisposing Diseases.

Living burials take place because the general public are ignorant of the fact that there are many (some

thirty) diseases, and some states of the body that cannot be called diseases, as well as a number of incidents and accidents, which produce all the appearances of death so closely as to deceive any one.

Excessive joy or excessive grief will often paralyse the nervous system, including the action of the heart and the respiratory functions, and occasion the appearance of sudden death; as well as shocks, blows upon the head, fright, strokes of lightning, violent displays of temper; also certain drugs now in common medical use, such as Indian hemp, atropia, digitalis, tobacco, morphia, and veratrum. According to Dr. Léonce Lenormand, in "Des Inhumations Précipitées," pp. 85-104, the following diseases and conditions not infrequently produce the like symptoms, viz., apoplexy, asphyxia, catalepsy, epilepsy, nervous exhaustion, ecstasy, hæmorrhage, hysteria, lethargy, syncope, tetanus, etc.

Dr. Hartmann observes:—"The cases in which persons apparently dead have been restored to health by appropriate means are innumerable, and such accounts may be added to without end, as they are of daily occurrence, while it is also self-evident that, if they had not thus been saved, premature burial and death in the coffin would have taken place. But it also often happens that cases of apparent death recover spontaneously, and even after all possible means taken for the restoration of life have failed. This is specially the case in catalepsy, due to nervous exhaustion, which requires no other remedy than sufficient rest for the recuperation of the life-power, which no kind of medicine can supply."

CHAPTER IX.

PREMATURE BURIAL AND CREMATION IN INDIA.

THE following are some of the facts and experiences which were brought to the author's notice during a visit to India in the early part of 1896.

THE CALCUTTA BURNING GHAT.

On February 9, 1896, I visited the Burning Ghat on the banks of the Ganges, Calcutta, where twenty bodies are reduced to ashes by fire daily. The corpse of an aged Hindu woman had just been brought in on my arrival; death, we were told, having occurred but an hour before. The deputy registrar asked the nearest relative a few questions as to the age, caste, next of kin, cause of death, which were duly recorded in a book kept for that purpose, and the charges having been paid, the body, which was as supple as in life (and except for want of volition bore no visible marks of death), was placed upon the logs, which were alternately crossed over each other, other logs being placed on the top of the body, with straw underneath. The family being poor in this case, no expensive spiced oils, ghee, or sandal wood were used. The pyre having been sprinkled with water from the sacred river, the nearest male relative took a wisp of lighted straw and ran seven times round

it, shouting, "Ram, Ram, sach hai" (the god Ram is true and great indeed). He then applied the torch, which in a few seconds reached the body, while a Hindu priest recited verses from the Vedas. The process of burning occupied about four hours. Two other bodies, one an adult, and the other a child, were nearly burnt to ashes during my visit.

Hasty Disposal of Apparently Dead.

It appears that in India, when the body is motionless, and assumes a death-like appearance, as in trance or catalepsy, no attempt is ever made at resuscitation, no matter how suddenly or unexpectedly the supposed death may occur, nor is there any proper method of examination for the purpose of death-certification. Amongst the Hindus death is not considered an evil, but is the gate leading to a better and happier world. Many Hindus, when ill, are carried by their friends to the banks of the sacred Ganges, where they meet death with much hope, and without fear.

At the General Hospital, Colombo, I was told by Dr. Van Lagenberg that there was absolutely no protection against premature burials for persons subject to trance, as, although according to the law medical certification was obligatory, medical examination was not; the doctor taking the word of the friends as to the fact of death, and certifying accordingly. Early burial (about six hours after death) was the rule. The Mother Superior to the staff of nurses mentioned the case of the venerable Father Vestarani, an aged Catholic priest of Colombo, who was subject to attacks of epilepsy;

these were followed by apparent death, and he had several narrow escapes from premature burial. This case was also known to my friend, Mr. Peter de Abrew, of Colombo, and others. The house surgeon, Dr. H. M. Fernando, said that amongst the Moslems burial followed apparent death very quickly, sometimes in an hour.

Brahmin Rites and Superstitions.

From Mr. Vira Raghava Chri, of Madras, manager of the *Hindu*, I learned that the Brahmins always burn the dead soon after death occurs. The relatives, if they reside within easy reach, are sent for. The body is washed in cold water, and after two or three hours the religious service begins, which is performed by the priests, and consists of citations from the Vedas, having reference to the departure of the soul from the body, and to the lessons the solemn event teaches. These ceremonies generally last for two or three hours, after which the body is taken to be burned. In answer to my inquiries as to what would happen if within that time no sign of decomposition was exhibited, Mr. Chri informed me that under no circumstances would they wait for more than six hours before the body was taken to be burned. He had heard of cases of persons declared to be dead coming to life while being carried to the funeral pyre, when they were restored to and welcomed by their friends. Cases were also known of the corpse sitting up amidst the flames, and being beaten down by those in charge of the funeral. They were believed to be the victims of premature cremation. He thought, however, that such cases were rare amongst his co-religionists.

Mr. Mohan Chunder Roy, M.B., of Benares, said that it was a very difficult matter, even for a medical practitioner, to distinguish the living from the dead, and where there were no signs of putrefaction, it was his custom to advise the relatives to wait before burial, or before sending the body to the burning ghat, which they were very reluctant to do. When apparent revivals to consciousness occurred on the pyre, the superstitious people believed that it was due to the presence of evil spirits, and the attempt to escape is frustrated by cremators in charge of the burning ghat. This barbarous custom has been repeatedly affirmed to me by intelligent natives as a matter of common notoriety.

One reason why Hindus are hurried to the cremation ground so quickly, and without waiting to see whether the case is one of trance or suspended animation, is that the relatives are not allowed either to eat or drink while the body remains in the house. If a person touches any article in the house of mourning, that article must be washed and purified. After the cremation all the relatives purify themselves by bathing before they are allowed to eat or drink.

Just Grounds for Fear.

Mr. Durga Prasad, editor of the *Harbinger*, Lahore, writes, February 29, 1896:—"I recollect, when about twelve years old, my grandmother, who was held in great esteem for her piety and experience, told me that she was once declared to be dead, and was therefore carried to our crematorium, or burning-place; but when about to be burnt she came back to life."

Mr. Joseph, assistant secretary at the Public Library and Museum, Colombo, told the author that his father, owing to weakness of the heart, was subject to frequent attacks of trance-like insensibility. They passed away by simple treatment in a few hours, but were sometimes quite alarming. He was afraid, owing to the superstitious fear of death among the ignorant classes in Ceylon, and the terror which keeping a corpse, or a person in a state of catalepsy, where volition had ceased, excited, that many were buried or burned alive, as it was the custom, particularly amongst the Mohammedans, to carry the body away a few hours after death. Signs of decomposition quickly appeared in a tropical climate, but this unequivocal mode of verifying death was not often waited for by Moslems.

Sinhalese Customs.

Sri Sumangala, the venerable High Priest of the Buddhists of Ceylon, and Principal of the College for Buddhist Priests, at an interview the author had with him in January, 1896, stated that among the Sinhalese the chances of burial or cremation of the apparently dead are not frequent. Their customs are such that a corpse is seldom or never removed for burial or cremation before the expiry of twenty-four hours after death is said to have taken place. During that time climatic influence renders signs of decomposition and putrefaction apparent.

Only one case came under the observation of the venerable theologian, which was that of a person bitten by a cobra. The man apparently succumbed, but a

native specialist, having arrived at the cemetery just before the burial, examined the case, and said that life was *not extinct*, and saved the man from a premature grave.

The following is from the *British Medical Journal*, April 26, 1884, p. 844:—

"PREMATURE INTERMENT.

"The *Times of India*, for March 21, has the following story:—On last Friday morning the family of a Goanese, named Manuel, aged seventy years, who had been for the last four months suffering from dysentery, thinking that he was dead, made preparations for his funeral. He was placed in a coffin and taken from his house, at Worlee, to a chapel at Lower Mahim, preparatory to burial. The priest, on putting his hand on the man's chest, found his heart still beating. He was thereupon removed to the Jamsetjee Jejeeboy Hospital, where he remained in an unconscious state up to a late hour on last Friday night, when he died."

SUPERSTITIONS AND DANGERS.

In a communication to the author from Mr. Nasarvariji F. Billimoria, dated March 14, 1896, the writer says that where cases of premature burning have occurred in India, the relatives are unwilling to have the facts published, and shrink from making them known. Moreover, when persons have been once declared dead, and have been rejected by their friends in the land of shadows, and have returned to this life, they are believed to bring misfortune with them, and discredit is attached to the families in consequence. Mr. Billimoria says the following cases can be relied upon as authentic:—

"In the year 18—, in the town of B ——, a Marwari was taken as dead, and carried to the cremation-ground. Unfortunately, at

that time a superstition was prevalent among all classes of Indians that, if a dead one is brought back to his or her house, a plague would break out in the town. When, therefore, the Marwari survived, instead of bringing him back to the house, or even allowing him to roam elsewhere, he was killed, it is said, by a hatchet, which they were in the habit of carrying with them to break the fuel for the funeral pyre. This had happened in the old Gaekwari days when Governments did not interfere in the superstitious customs of the people."

Fortunately, however, those days are gone, and with them the old superstitions. Some time ago a fisherwoman, after taking a liberal dose of alcoholic drink and opium, was found (apparently) dead by her relatives—low-caste Hindus. No time is lost among the Hindus, high or low caste, to remove the body to the cremation ground after a man is found dead.

"A bamboo bier was being prepared to carry the fisherwoman to the *Samashân* (cremation ground), upon which the body was laid as usual, and the relatives were to lift it to their shoulders: when, lo! the woman turned herself on the bier on her side, and, thanks to the good sense of the fisherman, she is still enjoying her life while I am writing.

"A young daughter of a Bania was sick for a long time, and was found apparently dead by her relatives, and carried to the *Samashân*. These grounds are generally situated at a river side. When the bier was prepared for certain ceremonies, the girl showed signs of revival, and, one by one, the relatives would go near the bier, bend down, stare at the face, and retire aghast. Information had reached the town that the girl had survived; but the body, nevertheless, was cremated, and never brought back to the house. It is believed that in this case, although the girl had revived for a little time, she had died soon afterwards, as she had been ill for a long time previously. Granting that this was a case in which the dying became actively conscious a few minutes before real death, it is

certain that great and indecent haste was practised by the relatives in pressing on the cremation, as is the usual mode in India."

A Question for the National Congress.

The *Bombay Guardian*, January 11, 1896, reports :—

"A Brahmin went to Poona, to attend the National Congress. He was laid up with fever, became dangerously ill, and fell into a trance. His friends, thinking him dead, made the necessary arrangements for the funeral. They took the supposed dead man to the river to be burned, but just as the funeral procession arrived near the Shane temple his head and hands were seen moving. The cloth having been removed from his face, he opened his eyes and tried to speak. He was taken home."

The subject of hasty and premature burials in India might with much profit be introduced at the National Congress. The author believes that thousands of people are annually buried and burned in a state of suspended animation—particularly in places where cholera, small-pox, and other devastating plagues prevail. It is usual both amongst the Parsees and the Hindus, to begin preparations for the religious ceremonies when the case is considered hopeless.

Dr. Roger S. Chew, of Calcutta, who for some years occupied the position of army surgeon in India, writes to the author :—"Though there is every risk of live interment with those classes who bury their dead, this is a risk (save in cases of epidemic or battlefield) the British soldier never runs in India, where the military law requires that a *post-mortem* examination, not earlier than twelve hours after decease, must be held on every soldier who dies from any cause except a highly

contagious or infectious disease." In the present unsatisfactory state of the law might not this safeguard be generally adopted?

THE TOWERS OF SILENCE, BOMBAY.

On Sunday, March 15, 1896, my daughter and I were accompanied to the Towers of Silence, situated on the highest part of Malabar Hill, Bombay, by Mr. Phiroze C. Sethna, a highly accomplished Parsee merchant, to whom we were indebted for many acts of kindness during our sojourn in the city. The position is one of rare beauty, commanding as it does charming panoramic views of Bombay and the surrounding neighbourhood, while immediately below are extensive cocoa and other tropical plantations. At the entrance to the towers is a notice-board in English, stating that none but Parsees are admitted. We passed under the porch into the sacred enclosure, and found ourselves in the midst of a lovely garden planted with choice shrubs and trees, and were each presented by the gardener with bouquets of freshly-cut flowers.

The towers are five in number, the smallest having been erected in 1669, all modelled after the same pattern, and are about twenty-five feet high. Inside is a circular platform about three hundred feet in circumference paved with large slabs, and divided into rows of shallow open receptacles in which the bodies are placed. There are three sections—for males, females, and children. We noticed a number of vultures sitting on the adjacent trees, and were informed that, when a funeral is on its way, large numbers congregate upon

the coping of the tower, ready to seize the body and devour it the moment it is deposited by the corpse-bearers on the slabs, after the conclusion of the funeral ceremonies. In an hour or less the corpse is completely stripped of its flesh, when the bones are thrown into a well. From a sanitary point of view the plan is preferable to burying or to cremation, which last, as it is carried out in India, is a slow and tedious process. Vultures have never been known to attack children, or even babies left by their mothers tied for safety to a branch of a tree, and will not, it is said, attack a person only apparently dead, as in a trance or coma.

Canine Diagnosticians.

Another custom amongst the Parsees in the treatment of their dead is to bring a dog to the corpse before it is removed from the house, and another dog on its arrival at the Tower of Silence. This ceremony is known as the Sagdeed. In a pamphlet on the "Funeral Ceremonies of the Parsees," by Ervad Jivanji Jamshedje Mody, B.A., a learned priest of the Parsee cult, with whom the author had the pleasure of an interview, the explanation is that, according to the ancient belief, the spotted dog can discriminate between the really and the apparently dead. Dr. Franz Hartmann and other writers appear also to be of the opinion, which the author considers highly probable, that a dog knows whether his master is really dead or only in a trance; but that a strange dog would be able to discriminate and act as a sentinel to prevent a living person being mistaken for a dead one, is highly improbable.

TRAGEDIES AT THE TOWERS OF SILENCE.

Having heard of several cases of persons taken to the Towers of Silence who recovered consciousness after being laid within the enclosure, I asked Mr. Jivanji Mody what would happen in such a case, and what means of escape there would be. Mr. Mody replied that within the tower there is a chain hanging from the coping to the floor, by which a person could draw himself up to the top of the structure, and he would then be seen and rescued. In a neatly-constructed model of these towers at the museum, Victoria Gardens, Bombay, no chain is visible. The subject of apparent death, or suspended animation, and how to prevent premature burial, premature cremation, and premature exposure in the Towers of Silence, is beginning to excite interest in some parts of India. Mr. Ardeshar Nowroji, Fort, Bombay, student of Zoroastrian literature, is to read a paper on the subject before the Debating Society at Elphinstone College. Mr. Soabjee Dhunjeebhoy Wadia is also studying literature bearing on the same topic.

Mr. Dadabohy Nusserwanje, a Bombay Parsee and merchant, residing at Colombo, Ceylon, informed the author, January 28, 1896, that he knew of two cases where his co-religionists had been declared dead, and the bodies prepared for burial (the preparation including the long religious service as prescribed by their formulas), who were only in a trance. This was proved by their having come back to life when placed in the Towers of Silence in Bombay. It appears that any persons officially and religiously given over for dead were

formerly not allowed to be restored to their relatives, or to the society to which they belonged, as they were supposed to carry with them, from their dead associates, liability to plague or ill luck, and they are consequently obliged to migrate to distant parts of the country. My informant said that this superstition was so deeply rooted in the minds of the Parsee people that he did not think a reform was possible.

Personal Reminiscences.

Cases of persons in a trance, mistaken for dead, are by no means uncommon, as would appear from the following communication from Mr. Nasarvariji F. Billimoria, a Parsee of Bombay, addressed to Dr. Franz Hartmann, and not previously published :—

"Several cases of revival of the apparently dead among the Parsees," writes Mr. Billimoria, "have come to my notice.

"A Parsee, whom I shall call M—— B——, was given up as dead. The body was laid on the ground, and the usual ceremonies were being performed, when, to the surprise of the people surrounding the body, he rose and described some spiritual experience. He died long after this event took place, at a good old age, at Bilimora, a town about eighty miles north of Bombay.

"S——, a girl of about ten years, was also taken as dead in the same town, and, after laying her body on the ground, prayers were being recited by the priests. She rose and said that she had been to some other land, where she saw an old lady who ordered her to go away, as she was not required there just then. She died at a good old age a few months ago.

"A woman in the garb of a Hindu beggar was some time ago in the habit of interviewing Parsee ladies at odd times, viz., at about three or four o'clock in the morning, at the same place, and asking several questions pertaining to religion. It was afterwards

found that she was K—— (widow of a Parsee priest), who had apparently died a short time before, and, after revival, had emerged from the Tower of Silence, and, a superstition being prevalent among the people that none should be taken back among us who return from the dead, she dared not unite with the Parsees, and hence led a wanderer's life.

"In Bombay, too, I have heard of some cases of the revival of the apparently dead among the Parsees, the principal of them being a lady of a wealthy family, and a Parsee who afterwards carried on his profession as a physician. The physician was living as a Christian on account of the prejudice among the Parsees before referred to. He was called "Mûtchala Dâktar," *i.e.*, doctor with big moustache.

"Similar cases had also occurred in Surat, where two Parsee women had returned from the Towers of Silence, one of whom lived afterwards as a Sanyasini. What became of the other I cannot say."

Parsee Funeral Rites.

"The funeral ceremonies among the Parsees provide that, after the signs of death are manifest, the body be washed with warm water, and laid on a clean sheet; two persons hold the hands of the dead person, joining themselves by a *paivand* of tape. The priests recite certain prayers, after which the body is laid on ground set apart for the purpose in the house. Here it lies for several hours, during which time priests recite alternately certain prayers, while a fire is kept alive with fragrant combustibles near the body. The Nasasâlârs, or corpse-bearers, arrive at the appointed time, when the fire is taken away, and other manthrâs or prayers, which occupy an hour or so, are recited by two priests conjointly, gazing first on the iron bier, and then on the face of the body. A procession is then formed

and the body is carried by the Nasasâlârs only, the others walking in pairs, joining themselves by holding a handkerchief in their hands, several yards distant from the body. The Towers of Silence are removed from the habitations of mankind, sometimes miles distant, where, after the arrival of the funeral procession, the last obeisance is performed, and the body is carried into the tower, which is called *Dukhmâh*, the mourners, except the Nasasâlârs, remaining outside. The procession returns after further prayers. The towers are entirely open from above to allow ample sunlight, and to allow the carrion-birds access to the dead.

"From the foregoing it would appear that, with regard to the disposal of the dead, the Parsee system offers advantages, in respect of the revival of the supposed dead persons, over the European system of burial. After real or supposed death, a fire is kept burning near the body, the heat of which would indirectly assist in resuscitating those in a state of suspended animation.

"If a man dies in the afternoon his body is not carried to the towers till next day, and in that case the fire is kept alive the whole night near the body, two priests alternately reciting manthrâs. Some time is thus allowed to intervene between the supposed death and the disposal of the body in the Towers of Silence. There, too, the body is not laid without Zoroastrian ceremony. But in the system of disposal itself we see another protection, in that the carrion-birds do not touch the body unless they instinctively find evidence of putrefaction. It is a fact that in not a few cases persons have escaped from the dismal and terrible fate of being laid alive in the Towers of Silence. The system of disposal in the tower

may appear to non-Zoroastrians repulsive; but neither the system of cremation or burial will give us back those whom they have once devoured. That the Parsees do not allow those who have returned from the Towers of Silence to intermingle among them is another question. This too, however, has attracted the attention of this small community; and I hear that there is a standing order issued from the trustees of the Parsee Panchayet at Bombay to the Nasasâlârs (the corpse-bearers) to the effect that they would be rewarded if they would give information or bring back any body which had been revived after it had been carried to the Towers of Silence."

Instances of Canine Sagacity.

The Parsee custom of using the dog is suggestive. There are numerous cases on record where a dog, following his master to the grave as one of the mourners, has refused to leave the grave; and these have been quoted as a proof of the undying love of the master's canine friend. May it not be that dogs are gifted, as believed by the Parsees, with another sense denied to most men—the faculty of discerning between real and apparent death? A medical correspondent relates the following:—

"In Austria, in 1870, a man seemed to be dead, and was placed in a coffin. After the usual three days of watching over the supposed corpse, the funeral was commenced; and when the coffin was being carried out of the house, it was noticed that the dog which belonged to the supposed defunct became very cross, and manifested great eagerness towards the coffin, and could not be driven away. Finally, as the coffin was about to be placed in

the hearse, the dog attacked the bearers so furiously that they dropped it on the ground; and in the shock the lid was broken off, and the man inside awoke from his lethargic condition, and soon recovered his full consciousness. He was alive and well at last news of him. Dogs might possibly be of use in deciding doubtful cases, where their master was concerned."

Also the following:—

"The postmaster of a village in Moravia 'died' in a fit of epilepsy, and was buried three days afterwards in due form. He had a little pet dog which showed great affection towards him, and after the burial the dog remained upon the man's grave and howled dismally, and would not be driven away. Several times the dog was taken home forcibly, but whenever it could escape it immediately returned. This lasted for a week, and became the talk of the village. About a year afterwards that part of the graveyard had to be removed owing to an enlargement in building the church, and consequently the grave of the postmaster was opened, and the body was found in such a state and position as to leave no doubt that he had been buried alive, had returned to consciousness, and had died in the grave. The physician who had signed the certificate of death went insane on that account, soon after the discovery was made."

CHAPTER X.

THE DANGER OF HASTY BURIALS.

EARLY burials are advocated and defended by certain writers on sanitary grounds; and there is, no doubt, something to be said for them, provided the body shows unmistakable signs of dissolution.

I have not unfrequently seen in the course of my professional duties, when visiting the houses of the poor, a corpse placed in its coffin in a corner of the tiny sitting-room of a four-chambered hovel in a city slum, where the family were having their meals, and all day a stream of neighbours would be calling to gaze upon the gruesome spectacle. It might be urged that such instances demanded, in the name of decency, that speedy burial should be enforced, but do not such weird conditions rather call for a waiting mortuary, whence the body could be removed until unmistakable signs of death set in? To impose a general rule of speedy burial upon Englishmen by Parliament, or upon Americans by State Legislature, as has been urged, would but add to the existing evil of perfunctory and mistaken diagnosis of death, and greatly increase the number of premature interments.

ANCIENT PRACTICES.

The Romans kept the bodies of the dead a week before burial, lest through haste they should inter them

while life remained. Servius, in his commentary on Virgil, tells us—"That on the eighth day they burned the body, and on the ninth put its ashes in the grave." Plato enjoined the bodies of the dead to be kept until the third day, *in order* (as he says) *to be satisfied of the reality of the death.* Quintilian explains why the Romans delayed burials as follows:—"For what purpose do ye imagine that long-delayed interments were invented? Or, on what account is it that the mournful pomp of funeral solemnities is always interrupted by sorrowful groans and piercing cries? Why, for no other reason, but because we have seen persons return to life after they were about to be laid in the grave as dead." "For this reason," adds Lancisi, in "De Subita Mort.," lib. i., cap. 15, "the Legislature has wisely and prudently prohibited the immediate, or the too speedy, interment of all dead persons, and especially of such as have the misfortune to be cut off by a sudden death."

Terilli, a celebrated physician of Venice, in a treatise of the "Causes of Sudden Death," sect. vi. cap. 2, says:—"Since the body is sometimes so deprived of every vital function, and the principle of life reduced so low, that it cannot be distinguished from death, the laws both of natural comparison and revealed religion oblige us to wait a sufficient time for life manifesting itself by the usual signs, peradventure it should not be, as yet, totally extinguished; and if we should act a contrary part, we may possibly become murderers, by confining to the gloomy regions of the dead those who are actually alive."

Continental Evidence.

Mr. Cooper, surgeon, in his treatise on "The Uncertainty of the Signs of Death," pp. 70, 71, had in his possession the following certificate, written and signed by Mr. Blau, a native of Auvergne, a man of untainted veracity:—"I hereto subscribe, and declare, that fifty-five years ago, happening to reside at Toulouse for the sake of my studies, and going to St. Stephen's Church to hear a sermon, I saw a corpse brought thither for the sake of interment. The ceremony, however, was delayed till the sermon should be over; but the supposed dead person being laid in a chapel, and attended by all the mourners, about the middle of the sermon discovered manifest signs of life, for which reason he was quickly conveyed back to his own house. From a consideration of circumstances, it is sufficiently obvious that, without the intervention of the sermon, the man had been interred alive."

Between 1780 and 1800 many pamphlets on the subject appeared in Germany and France. Opposite sides were taken, some advocating delay until putrefaction, others urging immediate burial.

In 1791, Rev. J. W. C. Wolff, in Germany, published numerous narratives of narrow escapes from the grave.

In 1792, Rev. Johann Moritz Schwager stated that he had preached for twenty years against precipitate burials, and that he had been requested to do so by a number of corporate bodies who had evidence of the danger of hasty interments.

About 1800 great excitement prevailed in Germany on account of some narrow escapes from living burial

that happened in high quarters, many books and pamphlets having been issued, and sermons preached by the clergy on the subject. The key-note of all of these was the fallaciousness of the appearances of death, and that none were reliable but decomposition.

About this period Dr. Herachborg, of Königsberg, Prussia, wrote that for forty years, as a doctor, he had always been disgusted with the practice of hasty burials; and to show the ignorance of the times, he mentions the case of a woman he kept under observation in bed for three days, when her relations took her out and placed her on the floor, insisting that she was dead. He resisted her burial, and had her covered with blankets; so that by being kept warm she recovered completely. He insisted that no sign of death could be relied upon.

The *British Medical Journal* of April 12, 1862, p. 390, quotes the *Gaz. Méd. d'Orient* as follows:—"People in Constantinople are, in all probability, not unfrequently buried alive, in consequence of the precipitancy with which their burial is performed. If the person dies during the night, he has some chance of escaping premature sepulture; but if he dies during the day, he is sure to be in his tomb in two hours after he has drawn his last breath. Facts of daily occurrence in this country, we are told, prove that persons who were thought to have died during the night have recovered before morning, and thus, thanks to the intervention of night, have been saved from being interred alive. Other facts of not unfrequent occurrence show that persons have recovered while on their road to the grave. In other rarer cases, again, the cries of the revivified half-buried

ones have been heard by the passers-by, and thus saved from a horrible conclusion."

Danger of Jewish Custom.

In all countries it is the custom amongst the Jews to bury their dead, and apparently dead, quickly, without taking the slightest steps for restoration, and many are the catastrophes recorded.

In 1788, Marcus Hertz wrote strongly against the prevailing precipitate burials among the Jews. He asked "What motive could justify hasty burials," and continued:—"The writings of learned men and doctors, of both early times and recent date, describe the dangers of precipitate burial; there is not a town in the world that has not its stories of revivals in the grave."

"The Report of the Royal Humane Society" of 1802 states:—"At the funeral of a Jewess, one of the bearers thought he heard repeatedly some motion in the coffin, and informed his friends. Medical assistance being obtained, she returned to her home in a few hours, completely restored."

The *Jewish World*, September 13, 1895, observes:—"Cases of trance and of the burial of persons who only seemed to be dead, and of narrow escapes of others from the most terrible of all imaginable fates, are not so uncommon as most people suppose; and while Jews adhere to the practice of interring their dead within a few hours after their supposed demise, there will always be a risk of such horrible catastrophes happening, even more frequently among us than among the general community. Here is, then, really a matter in which some reform is needed, and that without a day's delay.

"To say nothing of the merely human aspect of this important question, to bury until decomposition has actually set in might possibly be shown to be a violation of Jewish Law. It is now commonly admitted that even expert medical men cannot be absolutely certain of death until some signs of decomposition have shown themselves. Now, so strict is the Jewish Law as regards the risk of destroying life, that it is prohibited to even move or touch a man or woman who is on the point of death, lest we hasten, by a moment, their dissolution. It is, therefore, no less than a violation of the Jewish laws against murder to preserve a custom that involves even the minutest scintilla of risk of premature burial. It is high time that this question was seriously taken up by the Jewish clergy and laity." [1]

In the province of Quebec no interment is permitted within twenty-four hours, and the Jews reconcile themselves to this delay, which, however, is far too brief to ensure safety.

Further Jewish Catastrophes.

The *British Medical Journal*, March 8, 1879, p. 356, under the heading of "Suspended Animation," relates the following incident:—

"A Jew, aged seventy, who had been ailing for some time, apparently died recently in Lemberg, on a Friday night, after severe convulsions. The decease having been legally certified, the body was put on a bier,

[1] For the antiquity of the Jewish practice of early burial, see appendix.

preparatory to the funeral, which had to be deferred, the next day being the Jewish Sabbath. Two pious brethren who had, according to their custom, been spending the night in prayer, watching the dead, were suddenly, on the morning of the Saturday, disturbed from their devotions by strange sounds proceeding from the bier, and, to their dismay, saw the dead man slowly rising, and preparing to descend from it, using at the same time very strong language. Both brethren fled very precipitately; and one of them has since died from the effects of the fright. It is hoped by the *Wiener Medicinische Zeitung*, that this case will make the local government watch the Jewish funerals more carefully, as it is known that the Jews often bury their dead very quickly."

The *Undertakers' Journal*, January 22, 1887, says:—

"The dangers that may arise from premature interment are illustrated by a sensational incident which recently occurred at Trencsin, in Hungary. The wife of the Rabbi of the Jewish Congregation apparently died suddenly without having been previously ill. The night before the funeral the female watcher, sitting in an adjoining room, heard a noise in the chamber of death, and when, stricken with horror, she ventured to open the door, she found that the seemingly dead woman had risen from her bier, and had thrown off the shroud by which she was covered. By a fortunate accident the interment had been postponed in consequence of the intervening Sabbath, otherwise a horrible fate would have overtaken the Rabbi's wife."

The Lancet's Trenchant Criticism.

The *Lancet*, August 23, 1884, vol. ii., p. 329, comments thus upon the subject of "Burying Cholera Patients Alive":—

"It is not so much undue haste as inexcusable carelessness that must be blamed for the premature burying of persons who are not really dead. Such heedlessness as alone can lead to the commission of this crime is not a shade less black than manslaughter. We speak strongly, because this is a matter in regard to which measures ought to be at once taken to render the horrible act impossible, and to dismiss all fear from the public mind. If it be a fact, as would seem to be indisputable, that during the last few weeks there have been cases—we will not attempt to say how many or how few—of burying alive, a scandal and a horror, wholly unpardonable in the last quarter of the nineteenth century, have to be faced; and the sooner the full truth is known and rules of safety established the better. Let it be once for all decided that measures shall be taken to ascertain the fact of death before burial. Why not revert to the old practice, and *always* open a vein in the arm after death, or pass a current of electricity through the body before the coffin is finally screwed down? It may be held that these unpleasant resorts are unnecessary. We do not think they are. In any case enough is known of the possibilities of 'suspended animation' to render it unsafe to bury until the evidences of an actual extinction of life are unmistakable; and, as it is impossible to wait until decomposition sets in in all cases of death from infectious diseases, it would be

prudent to adopt what must certainly be the least of evils."

Whilst sharing most fully with the *Lancet* its justifiable indignation at the scandals which had undeniably occurred, we, nevertheless, cannot agree with its conclusion as to the impossibility of waiting until decomposition sets in in the case of infectious diseases. If, as it maintains, it is not possible to wait until the only absolute sign of death is manifest, then, in a large majority of cases, there is no safety, and those who die fatally mutilated by horrible accidents may be considered fortunate. The difficulty, we admit, is of a serious nature, particularly for the poor, and can only be overcome by the erection of mortuaries, as discussed in another chapter. The expedient of applying the electric current, suggested by the *Lancet*, has been proved useless in cases of death-trance, where the patients are impervious to the most violent modes of cutaneous excitation.

Dangers at Sea.

It is well known that sailors, as a rule, are very superstitious as to dead bodies remaining on board ship, and it has been the invariable custom, except under very special circumstances, to drop a deceased voyageur overboard as speedily as possible. The danger attending such a practice is evidenced by the following circumstance, communicated by Dr. K. H. Crom, dentist, Munich, in a letter dated 20th June, 1899:—

"In 1886 or 1887 a Mrs. Miller was taken suddenly ill while on a voyage from France to America. In spite

of the efforts of the ship's surgeon, she continued to grow worse, and apparently died, and was prepared for burial at sea; but her husband, although overcome with grief, noticed that she did not assume the rigidity characteristic of death, and accordingly begged the captain to defer the burial until *rigor mortis* was noticed or putrefaction set in. The captain kindly consented, and a strict watch was kept to detect any sign of returning consciousness or of putrefaction.

"Her husband was, of course, a constant watcher, and hardly left her side for two days; and, remarkable as it may seem, it is nevertheless a fact that, after a period of about forty-eight hours, signs of returning consciousness were observed. Restoratives were applied, and in a short time she was able to converse, and in a few days she was to all appearances as well as ever. During her state of apparent death, she was at times perfectly conscious of her surroundings, although unable to move or make the slightest sign to let those around her know she was still alive."

The Danger is Real.

It may be said that the dangers which have been referred to in this chapter are not so imminent in the United Kingdom as in France, Spain, Portugal, or even in the United States, owing to the existence of a more temperate climate, and the longer period allowed for burial. This may be so and yet the danger be considerable. It must be remembered that in the rural districts nothing in the shape of examination to establish the fact of death is practised; while in certain parts of Cornwall, throughout the greater part

of agricultural Ireland, amongst the Jews in all cities and towns, as well as those who in all places are certified as having died of cholera, small-pox, and other infectious and epidemic diseases, burial often follows certified death quite as quickly as in the Continental States before mentioned. In all the public resorts on the Continent the hotel-keepers, through an insensate fear of death and the injury which the possession of "a corpse," dead or alive, may do to their business, have them coffined and disposed of, particularly in the night, within a few hours of their supposed death. Dr. D. de Lignières, in "Pour ne pas être Enterré Vivant," Paris, 1893, says he has known of burials under such circumstances six hours after death. This author says that these scandalous homicidal acts are of everyday occurrence, and that the rapacious landlords have no difficulty in obtaining certificates of death from the accommodating *mort verificateurs*. Every one who visits the *hôtels des villes d'eaux*, *des stations balnéaires*, may verify (he says) the truth of this statement for himself. In short these are willing disciples of the "Latest Decalogue":—

> "Thou shalt not kill; but need'st not strive
> Officiously to keep alive."

CHAPTER XI.

FEAR OF PREMATURE BURIAL.

DEMONSTRATED BY WILLS.

MANY of those who are most familiar with the phenomena of life and death, including celebrated physicians, men of science, and clergymen, knowing that all the ordinary signs of death (referred to in another chapter) have, in practice, sometimes proved delusive, have been a prey to the suspicion that a fatal mistake is possible in their own case. They have, therefore, left precise instructions in their wills for various preventives which experience has shown to be necessary, and in some instances a combination of these, so as to make doubly sure that they shall not be subjected, like thousands of human beings, to the unspeakable horrors of being buried alive. Such is the morbid dread of premature burial that, since Count Karnice-Karnicki's method of preventing burial alive (which will be described later on) has been introduced, many hundreds of persons in France have left directions in their wills for his system to be adopted at the time of their alleged decease. Several daily papers drew attention to two wills published on the same day, viz., Aug. 13, 1903, where the testators gave special directions to ensure the certainty of their demise.

One was the late Mr. John Newton, a well-known silk dyer, of Macclesfield, who asked that his executor,

on hearing of his death, should call in a doctor other than his regular medical attendant, to ascertain and satisfy himself, by any scientific or other means, that life had left his body, and that he was not in a state of "coma, trance, or suspended animation."

The second will was that of Miss Caroline Townsend Robarts, of Bromley, Kent, in which the testatrix desired that on her death a medical man should cut an artery or apply some other means to ascertain that death was certain, and to avoid the danger of her being buried in a trance.

Peculiar Requests.

Mr. Horace Welby, in his volume entitled "Mysteries of Life, Death, and Futurity," 1861, under the head of "Premature Interment," p. 114, says:—"How prevalent is the fear of being buried alive may be gathered from the number of instances in which men have requested that, before the last offices are done for them, such wounds or mutilations should be inflicted upon their bodies as would effectually prevent the possibility of an awakening in the tomb. Dr. Dibdin relates that Francis Douce, the antiquary, requested, in his will, that Sir Anthony Carlisle, the surgeon, should sever his head from his body, or take out his heart, to prevent the return of vitality; and his co-residuary legatee, Mr. Kerrick, has also requested the same operation to be performed in the presence of his son."

The late Lady Burton, widow of Sir Richard Burton, provided that her heart was to be pierced with a needle, and her body to be submitted to a *post-mortem* examination, and afterwards embalmed (not stuffed) by

competent experts. Lady Burton, it is said, had been subject to fits of trance on more than one occasion, and was terribly afraid that such an attack might be diagnosed as death.

The Secretary to the Howard Association says that Howard, the philanthropist, dreaded premature burial both for himself and others, and ordered that after his death one or two of his veins should be opened, and his burial delayed for at least five days.

Apprehensions of Well-known Personages.

Bishop Berkeley, Daniel O'Connell, and the late Lord Lytton entertained similar apprehensions. Wilkie Collins had a like fear, for he always left on his dressing-table a letter in which he solemnly enjoined his people that if he were found dead in the morning, he should at once be carefully examined by a doctor. Hans Christian Andersen had a similar dread, and carried in his pocket a note to the effect that, when the time came, his friends were to make sure that he was really dead before burial. Harriet Martineau left her doctor ten pounds to see that her head was amputated before burial. The dread of being buried alive dictated a clause in the will of the distinguished actress, the late Miss Ada Cavendish, for the severance of the jugular vein ; and prompted the late Mr. Edmund Yates to leave similar instructions, with the provision that a fee of twenty guineas should be paid for the operation, which was carried out. Mr. John Rose, of New York, who died in November, 1895, made known his earnest desire, that his coffin should not be closed,

but laid in the family vault at Roseton, and guarded day and night by two caretakers, who were instructed to watch for signs of re-animation.

A well-known and eccentric Dublin doctor, Dr. Heron, was found dead in his bed at Monkstown in October, 1901, and pinned to the bed over his body was the following note, written in pencil :—" Notice.—Do not bury me till I am dead. Don't mind the doctors, unless they put a knife through my heart. You will never forgive yourselves. To all in the Division Court when I may be thought dead. No mortal can tell if a man is dead until he begins to rot, or there is a good hole through his head." Evidence at the inquest showed that the poison was taken in darkness in mistake for a sleeping draught, and a verdict of "death from misadventure" was returned.

One of His Majesty's Judges informed the author recently, that he was so convinced of the danger of premature burial, that when sojourning in a strange city he made a practice of arranging with the Surgeon-General, or other trustworthy expert, to see that life was absolutely extinct before the interment of his remains.

Corroboration by the Lancet.

The *Lancet*, March 17, 1886, says :—" There are many apparently trustworthy stories afloat, both in this country and on the Continent, which favour the belief that premature interment not only does sometimes take place, but is really of not so unfrequent occurrence as might be supposed. Some few believe it to be not an unlikely event, and break out into a cold perspiration

at the thought of the possibility of the misfortune happening to themselves. Others have actually made provision in their wills that means should be taken, by cutting off a finger, or making a pectoral incision, etc., to excite sensibility, in case any should remain after their supposed death; whilst a French countess, in order to escape so terrible a fate, left a legacy to her medical attendant as a fee for his severance of the carotid artery in her body before it was committed to the tomb."

Those who are most apprehensive of apparent death being mistaken for real death are the clergy and other ministers of religion, and funeral directors—in other words, those who know the most about it.

Let anyone introduce the subject when in company, and startling cases will invariably be narrated by one and another sufficient to shake incredulity, and to compel us to realise the danger to ourselves, as well as to all other members of the community, under our present loose customs in regard to the treatment of the supposed dead. If this dread of premature burial is not universal, as some writers and authorities aver, it is certainly widely extended; and the evidence set before our readers will show that it is by no means without foundation.

Public Testimonies.

The Rev. John Kingston, chaplain R.N., writing to the (London) *Morning Post*, September 18, 1895, says—"The danger of being buried alive appears to be a very real one; and I can testify, from my experience as a clergyman, that a great many persons are haunted by

the dread of that unspeakably horrible fate." The writer further expresses a hope that the ventilation of the subject will be followed by practical results.

While speaking on the subject of premature burials, in a lecture delivered at Everett Hall, Brooklyn, New York, June, 1883, Mr. J. D. Beugless, the then President of the New York Cremation Society, said that an undertaker in that city (Brooklyn) recently made provision in his will, and exacted a promise from his wife of great caution, that his body should be cremated, being induced thereto by the fear of being buried alive. "Live burials," he says, "are far more frequent than most people think." It is reported that another undertaker of Brooklyn some time since deposited a body in a receiving vault temporarily: when he went some days later to remove it for burial, what was his horror, upon opening the niche in which the coffin had been placed, to find the body crouching at the door, stark in death, the hair dishevelled, the flesh of the arms lacerated and torn, and the face having the most appalling expression of horror and despair ever witnessed by mortal eyes!

CATALEPSY, OR ——— ?

An undertaker, writing to the *Plymouth Morning News*, October 2, 1895, mentions that he reluctantly buried a young person, who lay in the coffin for seven clear days without sign of decomposition, and only consented to close the coffin then, on the assurance that the same conditions attended all the deaths which had previously occurred in the family. Dr. Hartmann and other authorities have found that such cases are probably

the subjects of catalepsy, a malady which sometimes runs in families and affects every member. The undertaker adds that, in future, he should decline to close the coffin of the apparently dead until signs of decomposition set in, "thus preventing the possibility of our worst fears being realised." If undertakers generally would adopt these wise and necessary precautions, living sepulture would come to an end. Under the existing imperfect system of medical examination—and, as we have shown, both in England and in the United States, where there is usually no examination at all—there is often a reckless haste in interments. No thoughtful persons can contemplate the burial of a million and a half human beings annually in these two countries without mistrust and misgivings.

As recently as the 13th January, 1904, the Paris correspondent of the *London Echo* reports a case from Valence, where a young woman at the village of Portes fell into a cataleptic state so deep that it was thought she was dead.

The usual funeral arrangements were made, and the friends and relations were taking a last look at the supposed corpse when it sat up.

The girl appeared terror-stricken at her surroundings, and leapt from the window to the pavement, three storeys below, and was killed on the spot.

Safeguards Imperative.

As already pointed out, many well-to-do people in civilised countries provide in their wills for the prevention of premature interment, by leaving instructions for surgical operations after their decease, *post-mortems*,

embalmment, or cremation. It may happen, however, that wills are mislaid, lost, or withheld by the testators, or are not opened and read until after the funeral, when the instructions in this regard, however strictly enjoined, are rendered nugatory. Bequests should be given conditionally on the observance of certain duties, and only payable on proofs to the executors that they have been carried out. A large majority of people do not, however, leave testamentary instructions, for the simple reason that they have nothing to bequeath. And the majority have an equal claim with the minority to be safeguarded by the State against such terrible misfortunes. Syncope, sometimes mistaken for death, is a condition to which both men and women, who are compelled by their poverty in all large cities to endure exhausting labours in ill-ventilated work-rooms, and their often ill-nourished children in board schools in England and in the public schools in America, are peculiarly liable.

In view of the ghastly consequences which may result from a mistake that cannot be rectified when the grave is closed, and in view of the justifiable fear which is spreading among intelligent persons as to burial alive, the most stringent State regulations should assuredly be enforced, so that rich and poor alike may be effectually safeguarded against this most awful of human catastrophes.

CHAPTER XII.

SUDDEN DEATH.

POPULAR FALLACY.

THE idea commonly entertained is that with animal bodies there are only two possible conditions—either life or death; that the presence of one of these conditions implies the absence of the other; that when the body has assumed the appearance of death, as during the sudden suspension of all the functional activities, it must be dead. This last is far from being true; for all the appearances of death are fallacious, especially those that accompany so-called sudden death. All such cases should be challenged as of doubtful character, and held so till recovery or putrefaction of the tissues proves the presence of life or of death. This subject is too often treated by medical writers with indifference. Technically, it is regarded as a failure of the brain, or lungs, or heart, to perform their functions; popularly, we say that "the thread of life is snapped asunder," or it is "the going out of life," like the sudden extinguishing of a candle. Experience, however, teaches that life leaves the body in a gradual manner, and that death approaches, and takes the place of life, in one part or organ after another, thus creeping through the tissues and sometimes defying all tests to prove its

presence, leaving putrefaction to be its only sign. There can be no such thing as veritable sudden death, unless the body is crushed into a shapeless mass, like an insect under foot.

Authoritative Opinion.

The late Dr. Farr, of the Registrar-General's Department, London, says: "No definition of the sense in which *sudden death* is practically understood by coroners has been given." Dr. Granville says: "The writers on medical jurisprudence do not state with any strictness what they mean by sudden death, whether it be death in ten minutes, ten hours, or ten days."[1] And he asks in the same vein, "Does sudden death mean death in three minutes, three hours, or three days?"[2] Still further he remarks regarding the customary definitions, "They lead one to infer that a certain mysterious principle, called LIFE, has been instantaneously withdrawn from a healthy and well-constituted individual, who was at the very moment, as heretofore, exercising his proper animal functions with a regularity that promised to endure for a long continuance of years. . . . No such phenomena occur in Nature, unless through violence or from accident. Under Nature's laws there is no such thing as sudden death. . . . In every case where death has abruptly cut short the thread of life, there has been a preparation, more or less antecedent to the occurrence, which must inevitably have led to it. . . . The victim may seem to have been

[1] Dr. A. B. Granville, "Sudden Death," p. 278. [2] Ibid., p. 278.

struck down, as if by lightning. But in reality the event was only the natural termination of an inward state of things which insidiously and unexpectedly was preparing the blow."[1]

Dr. Tidy, in "Legal Medicine," p. 29, says:—"As a rule, the action required to bring about complete molecular death—*i.e.*, the suspension of vital activity in every part—is progressive. In a given case, therefore, we are unable to state any definite time as the period of its occurrence. The popular idea of death is that the entire body dies at once. Somatic death is an impossibility."

The Possibility of Error.

Thus, it is clear that the process of death, or the departure of life, may require days or weeks for its completion; and it may even be delayed to a time when putrefaction has set in quite generally, as when the hair and nails grow after the body has been buried some weeks, as has been credibly reported. Writers upon so-called sudden death recite a number of diseases and conditions which quickly destroy the machinery that carries on the vital functions, thus rendering resuscitation quite impossible. Tidy[2] names some twelve of such causes: prominent among them are diseases of the heart, rupture of the heart, clots in the blood vessels, aneurisms, effusions of blood in the brain, bursting of visceral abscesses, ulcers of the stomach, extra-uterine pregnancy, rupture of the uterus or bladder, large

[1] Dr. A. B. Granville, "Sudden Death," p. 279.
[2] Tidy, "Legal Medicine," part i., pp. 279-280.

draughts of cold water taken when the body is heated, cholera, alcoholic poisoning, mental emotions, etc. But he remarks upon these causes: "Because a person dies suddenly, there being no evidence of violence or poison, the action adopted by many coroners in not requiring a *post-mortem* examination leaves the most important witness—the dead body itself—unheard, and the inquest so far valueless." Which may mean that, without the risk of an autopsy, it is impossible in such cases to determine whether they are beyond resuscitation or not, unless putrefaction settles the question. Unfortunately there is nothing in the external appearance of those cases of so-called sudden death in which the vital machinery may be totally wrecked, to distinguish them from those of apparent death, in which all the organism is in a state of perfect integrity, and in which resuscitation is possible, provided the vital principle has not entirely left the body. Consequently, the only safe rule to observe in all cases in which death has not followed poisoning, or injuries which kill outright, or some known disease of sufficient duration and severity to bring on dissolution, is to wait for unmistakable evidences of decomposition before autopsy, embalming, cremation, or burial is allowed.

In former times precipitate interments of persons who died suddenly were specially guarded against.

Much Taken for Granted.

Nothing is more common, on opening a newspaper, than to see one or more announcements of sudden death. These occurrences are so frequent that the great London dailies, except when an inquest is held,

or when the deceased is a person of note, omit to record them. The narratives are much alike: the person, described to be in his usual health, is seized with faintness in the midst of his daily avocation, and he falls down apparently dead; or he retires for the night, and is found dead in his bed. In many instances *post-mortems* are made and an inquest held; but in other cases the opinion of the attendant doctor, that the death is due to heart-disease, syncope, asphyxia, coma, apoplexy, or "natural causes," is deemed sufficient. The friends who are called in to look at the body will remark, "how natural and how life-like," "how flexible the limbs," "how placid the face"; and, without the faintest attempt at resuscitation, arrangements are made for an early burial.

Dr. Wilder's Views.

Dr. Alexander Wilder, Professor of Physiology and Psychology, in a letter to the author, says: "There are a variety of causes for sudden death. The use of tobacco is one. Another is overtaxed nervous system. Men of business keep on the strain till they drop from sheer exhaustion. At the base of the brain is a little nerve-ganglion, the medulla oblongata, which, once impaired, sends death everywhere. Overtaxing the strength by study and mental stress will do this. The solar ganglion below the diaphragm is the real vital focus of the body. It is first to begin, last to die. A blow on it often kills. An emotion will paralyse it. Even undue excess at a meal, or the use of overmuch alcohol, may produce the effect.

"Tobacco impairs the action of the heart. An over-full stomach may paralyse the ganglionic centre, and breathing is liable to stop. It is dangerous in such cases to lie on the back. All these deaths are by heart-failure." It is syncope where the heart fails first; asphyxia where the lungs are first to cease; coma when the brain is first at fault. "Natural causes" and "heart-failure" usually mean, like "congestion," that the doctor's ideas are vague.

Dr. Wilder continues:—"I would choose such a death if I could be sure it was death. *But most of those things which I have enumerated may cause a death which is only apparent.*"

Illustrations of Sudden Death.

The following briefly extracted cases from English papers are typical of thousands of others, and can be duplicated, with slight variation in terms, throughout the United States. The absolute proof of the reality of such deaths is not found in hasty diagnosis or in medical certificates, but in the presence of putrefaction:—

Sudden Death—"Heart Failure."

"On Wednesday evening last, Mr. A. N. Laughton, High Bailiff, held an inquest on the body of John Cringle, of Glenmaye. Deceased was employed as second hand on board the lugger "Choice," awaiting fair weather before proceeding to Kinsale. On Tuesday night the deceased went on board the boat about eleven o'clock, seemingly in good health and the best of spirits, and instead of going to bed he remained lying on the locker. Nothing was heard during the night to cause alarm, but the cook, on going to rouse him early in the morning, found him dead. Dr. Gell was sent for, but found he had been dead for some time.

"At the inquest, which was held on Wednesday evening, Dr. Gell gave evidence, stating that death had been caused by failure of the heart. The jury returned in accordance with medical testimony. It seems a great pity that there is not a proper mortuary in town, but that the body should be placed anywhere. We think it high time something should be done to procure one."—*Manx Sun*, April 4, 1903.

Sudden Death While Preparing for a Walk.

"A painfully sudden death occurred at Foleshill on Sunday evening. Mrs. Pearman was preparing to go for a walk. She went upstairs, leaving some friends below. As she appeared to be absent rather a long time, and as her movements could not be heard, someone in the house called to her. No answer was received, and, on a visit being paid to the bedroom, she was found lying on the floor dead. The doctor was called, but he could only pronounce life extinct. Deceased, who was about 61 years of age, is stated to have been as well as usual lately, and had not been medically attended for five years."—*Midland Daily Telegraph*, April 6, 1903.

Sudden Death of a Schoolboy.

"On Thursday morning, a boy named Howard Leslie Pearson, aged thirteen years and seven months, the son of Mr. Walter Ernest Pearson, clerk, residing at 29 York Road, Grays, died suddenly at his father's residence. It appears that in the morning deceased went to school apparently in his usual health, but about half-past eleven he became unwell, and was sent home by the master. As his condition became worse, medical aid was summoned by the parents, but the poor lad expired before the doctor arrived."—*Essex Times*, April 15, 1903.

Sudden Death—"Quite Well."

"On arriving home at Disley, John Hill discovered his wife Mary dead in an outhouse. Deceased, who was 50 years of age, was quite well when her husband left home in the morning. She ate a good breakfast with her husband on Monday morning, and then prepared herself to go shopping. Her husband left, and

on returning home, on going to the outbuildings, he found his wife quite dead. Death is supposed to have taken place from heart disease or apoplexy."—*Manchester Weekly Chronicle*, April 18, 1903.

SUDDEN DEATH WHEN OUT FOR A WALK.

"About half-past four o'clock on Saturday afternoon, Sutcliffe Haigh, mill-hand, of No. 2 Bank End, Nettleton Hill, Longwood, and his wife (Ann Haigh), went to a tea party. After tea they went for a walk, and about seven o'clock Mrs. Ann Haigh suddenly fell to the ground. Her husband raised her head on his knee. She breathed heavily, and died in a few minutes. The deceased had been in good health."—*Huddersfield Examiner*, April 27, 1903.

SUDDEN DEATH—"NATURAL CAUSES."

"A Guiseley reservist named George Gedgeington, employed by the Midland Railway Company, was found dead in bed yesterday morning. The previous evening he had retired to rest in apparently the best of health. Medical opinion was that death was due to natural causes. He was 29 years of age."—*Leeds Mercury*, April 27, 1903.

SUDDEN DEATH OF A CHILD.

"A girl named Agnes Dennis, residing with her parents in Coatbridge, was discovered dead in bed last night. The girl was in the best of health, and during the night had not complained. Dr. Cordiner saw the body, and attributed death to natural causes." —*Glasgow Evening Times*, May 5, 1903.

SUDDEN DEATH—"IN GOOD HEALTH."

"A painfully sudden death occurred to Mr. Thomas G. Ginns, the steward of the Working Men's Club, early on Wednesday morning. Ginns, who was at play at cricket on Tuesday afternoon, was in excellent spirits, and appeared all right, and attended to his duties up to closing time as usual. He went to bed apparently in as good health as usual."—*Northampton Daily Reporter*, June 3, 1903.

Sudden Death—"Syncope."

"The death of Mr. William Murray Maxton, chemist, Abbey Corner, Kelso, occurred very suddenly on Saturday last. Deceased, who was a man of middle age, was in his usual health and at business on the previous day, and next morning he was found dead in bed. A short time ago he sustained a slight injury to one of his arms, but it is not thought that this contributed in any way to his death, which was, we understand, attributed to syncope."—*Kelso Mail*, July 2, 1903.

Sudden Death—"Natural Causes."

"The sudden death of Mrs. Ruth Shepherd, formerly of Deerplay, occurred on Monday evening. Deceased appeared in good health about nine o'clock the same evening, and was standing in the farmyard when she was taken suddenly ill, and nearly fell to the ground. She was carried into the house, and the doctor sent for, but she died at 10.30, in the presence of two neighbours who had been called in. When Dr. Helm arrived, he pronounced life extinct, and attributed the cause of death to a stroke. On Wednesday noon an inquest was held at Deerplay Inn, before Mr. J. Robinson, Mr. Atkinson being foreman of the jury. A verdict of death from natural causes was returned."—*Rossendale Free Press*, July 4, 1903.

Sudden Death—"Natural Causes."

"A young woman named Florence Matilda Evans, aged eighteen, who lives with her parents in 4 Constellation Street, Cardiff, died under remarkable circumstances on Friday night. She went to bed about a quarter past ten, apparently in good health. She did not complain of feeling unwell, and had not been attended by a doctor. Yet, three-quarters of an hour later, her mother went into the bedroom and found her dead. It was a great shock to Mrs. Evans, who had no suspicion that her daughter was ailing. Dr. Blight, of Newport Road, was immediately called in, and examined the body. The probability is that death was due to natural causes."—*South Wales Daily News*, August 3, 1903.

Sudden Death Whilst at Work.

"The death is recorded of Henry Ridley, a twister, about 37 years of age, who lived at 4 Marpeth Street. He was a single man, and for the last seven years had been healthy and worked regularly. Yesterday afternoon, whilst at work at a mill in Trafalgar Street, he was seen to fall from his stool, and, when picked up, life was found to be extinct."—*Blackburn Star*, September 4, 1903.

Sudden Death—"Syncope or Apoplexy."

"Mr. Hill attended at Hebden Bridge for the purpose of inquiring into the circumstances attending the death of Mrs. Amos Crossley.

"Amos Crossley, carter, Mitchell Street, Fairfield, said deceased was his wife, and was 36 years of age. She had enjoyed very good health. She never had attacks of fainting. Her breathing had not been at all troublesome. He last saw her alive about seven o'clock on Thursday morning, when they had breakfast together. She seemed very well then.

"Robert Newbury West, *locum tenens* to Dr. Cairns, said that he was called to see deceased about half-past twelve, and he found her laid on the floor when he arrived. She was quite dead. There was congestion round the neck, and the lips were livid. That pointed to hemorrhage on the brain, or apoplexy.

"The Coroner—She was rather young for that?

"Witness—She was young, certainly, but there might be diseased arteries. The circumstances pointed to syncope or apoplexy, but from the appearance of the deceased the latter was the more probable. He did not notice whether she had anything in her mouth or not.

"The jury returned a verdict that deceased died from natural causes, probably apoplexy."—*Todmorden News*, September 18, 1903.

Sudden Death—"No Inquest Necessary."

"Mr. John Jones, a contractor employed at Messrs. Bowers' works, Ruabon, died suddenly on Wednesday. On the previous

day he had been in excellent health. Death being attributed to failure of the heart's action, no inquest was deemed necessary."—*Liverpool Daily Post*, September 25, 1903.

Sudden Death—"Robust Health."

"On the 19th March, 1903, Johnnie Williams, of Taiteg, aged ten, went to school as usual, apparently enjoying robust health. Soon he complained of being unwell, and began to vomit. The schoolmaster sent him home, and he was put to bed, and soon died from failure of the heart. Dr. Lloyd was summoned, but he arrived after life became extinct."—*North Wales Times*, Denbigh, November 28, 1903.

Sudden Death—A Curious Coincidence.

"A death, exceedingly painful in its suddenness, occurred at Astley Bridge on Saturday. The deceased was a young woman named Leah Elizabeth Stables, 21 years of age, a weaver, of Eden Street. She arrived home from work at noon that day, and complained of a bad headache. She took two pills that she had been accustomed to having, and then said she would have a rest, and proceeded upstairs. At 2.30 her married sister went to her room, when she complained of feeling rather cold, and asked that some more clothes should be placed upon her. Her sister did as requested, and then left her. About four o'clock the latter went upstairs again to awaken her to go to a party, and was shocked to find her lying dead on the bed in the same position that she had left her. Two doctors were called in, but could, of course, render no assistance. Deceased had evidently passed away in her sleep. She had previously had good health, except that she had headaches. It is a curious coincidence that deceased's brother aged seventeen, previously died in the same way, about nine years ago, a verdict of heart disease being returned at the inquest. An inquest was held by Mr. John Fearnley, Deputy Borough Coroner, on Monday afternoon, at the Lamb Inn, Astley Bridge, in reference to this death. There was no sign of her having had a fit—she looked as if only asleep. She had never complained of any heart ailment, but she had had headaches previously, for which she had taken pills similar to those she used on Saturday.

Deceased had always been healthy, except having an ulcerated leg some time ago. A juror said he saw deceased on Friday, and she then looked in the 'pink of condition.' The Coroner was of opinion that death arose from sudden failure of the heart's action; but if the jury desired further evidence there might be a *post-mortem* examination. The jury, however, considered this unnecessary, and returned a verdict of 'Natural causes—probably heart failure.' It transpired at the inquiry that a sister of the deceased had also died suddenly, as well as the brother."—*Bolton Chronicle*, December 2, 1903.

Sudden Death in Sleep—"Natural Causes."

"The sudden death of James Studd, a horseman in the employ of the Ipswich Corporation, who lived at 29 Fitzroy Street, was the subject of investigation by the Borough Coroner, on Monday evening, at the Crown Street Church Schoolroom. The deceased man was following his ordinary occupation on Saturday up till half-past one o'clock, when he left off for the day. From that time he did not leave his house, but was quite well. He went to bed about a quarter past nine. When his wife followed, a little later, he seemed to be asleep. The same was the case when Mrs. Studd got up in the morning at eight o'clock, and, thinking her husband was in a good sleep, she did not speak to him. When, however, she called him to breakfast, and could get no answer, her suspicions were aroused. On going upstairs, she looked at him and touched him, but he did not move. She therefore called in William Flory, who lives close by, and is also employed by the Corporation, who confirmed her worst fears, namely, that her husband had died in his sleep. Mr. Frank Adams, surgeon, attributed death to natural causes, probably heart failure. The Coroner having said that after the medical testimony there was no need for further evidence, the jury returned a verdict of 'Death from natural causes.'"—*East Anglian Times*, December 22, 1903.

Sudden Death—"Epilepsy—Natural Causes."

"This evening an inquest was held by Mr. Reece, Cardiff District Coroner, on the body of Catherine Pyburn, eighteen years

of age, of 46 Helen Street. Deceased, who had been a healthy young woman, was suddenly taken ill on the morning of Christmas Day. Dr. Corrigan was called in, and found her in an unconscious condition, and she died shortly afterwards in an epileptic fit. A verdict of 'Death from natural causes' was returned."—*South Wales Daily Echo*, December 28, 1903.

Sudden Death—"Inquest Not Necessary."

"Yesterday morning a blacksmith named Edward Whelan, aged between 40 and 50 years, expired very suddenly at his forge in Glasslough Street, Monaghan. The deceased had been working all morning, and at about nine o'clock took a vomiting fit. Dr. James Henry was soon on the scene, but Whelan, who seemed a healthy and robust man, did not rally, and died in a few minutes. An inquest was not considered necessary."—*Belfast Newsletter*, December 29, 1903.

Sudden Death—"Some Natural Cause."

"A little girl named Christinia Brown, of Newcombe Street, Newcastle, died suddenly on Wednesday night. She was only nine years of age, and was looked upon as a healthy child. But whilst playing in the back lane, near her parents' house, she suddenly fell to the ground, and on being picked up was found to be dead. At an inquest on the body last night it was stated that nothing had ever ailed the girl. The jury returned a verdict to the effect that deceased had died from some natural cause, probably heart disease."—*Newcastle Daily Chronicle*, January 23, 1904.

Sudden Death—"After Fainting."

"Yesterday afternoon, a storeman named Joseph Boyd, aged 33 years, of Howe Street, Bootle, who was in the employ of Ellerman's Limited, shipowners, died suddenly on a tramcar in Derby Road. It appears that when he boarded the car at Bankhall he was in good health. Shortly afterwards he fainted, and was conveyed to the Bootle Hospital, and on being examined by Dr. Laird life was found to be extinct."—*Liverpool Daily Post*, February 27, 1904.

SUDDEN DEATH—"BEST OF HEALTH."

"Early yesterday morning, Mr. J. Aird was found dead in bed at the Royal George Hotel, Crewkerne. He had given instructions for his hot water, which was put outside his bedroom. On the 'boots' going up to the room, about an hour afterwards, he found Mr. Aird dead. Deceased travelled for a firm of wholesale druggists. He appeared to be in the best of health on retiring to rest on Tuesday night."—*Devon Daily Gazette*, April 7, 1904.

The foregoing are given simply as typical examples of a class of cases of which thousands might be cited, but it has not been thought necessary to weary the reader with the details of further instances.

While it is not suggested that the foregoing are cases of premature burial, yet it is absolutely certain that they belong to the category of persons of whom a considerable percentage are liable to such misadventures, unless precautions very different from those in vogue are taken to prevent them. All medical practitioners allow that a man may be half drowned or half dead, and that cases of suspended animation occur where the most experienced physician is unable to detect the faintest indication of breathing or cardiac movement. They are, however, quite sceptical as to absolute suspensions of life where all the ordinary methods to test its existence fail; and, owing to this scepticism, and the readiness to give certificates of death in cases of alleged sudden death, have unwittingly promoted premature burials, as will appear by the facts quoted in these pages.

CONDEMNATION OF HASTY BURIAL.

Mr. M. Cooper, in the "Uncertainty of the Signs of Death," p. 49, cites from a letter by one William

Fabri, a surgeon, the opinion that we . . . "have just reason to condemn the too precipitate interment of persons overpowered by lethargies, apoplexies, or suffocation of the matrix; for I know there have been some, supposed to be irretrievably cut off by these disorders, who, resuming strength and returning to life, have raised the boards of their own coffins, because in such disorders the soul only retires, as it were, to her most secret and concealed residence, in order to make the body afterwards sensible that she had not entirely forsaken it." These wise counsels were written two hundred and sixty-eight years ago, since which time thousands of our fellow-creatures have, it is feared, been the victims of premature interment, and yet the danger then pointed out remains. The *Undertakers' and Funeral Directors' Journal*, the conductors of which are laudably anxious to keep their profession from the odium of burying people alive, referring to sudden deaths and this danger, says, in its issue of January 24, 1894, under the head of "A Burning Question":—"Sufferers from such chronic ailments as are reputed to end suddenly are in constant danger from the present state of the law, if they are in the hands of people interested in their death." And continues: "Even where a medical certificate is obtained, such general laxity has entered into proceedings that but little protection is thereby afforded to the public. While the medical man is bound to state what he believes to be the cause of death, he is under no obligation to make sure either that the patient is dead at all, or that, if dead, he died from a particular disease for which he was attending him."

French Report and English Criticism.

Dr. Alfred Swayne Taylor, in his standard work on "Medical Jurisprudence," writing of a petition which on one occasion was presented to the French Chamber of Deputies, wherein the petitioner declared he had known six interments of living persons to have taken place within a period of eight months, adds that Carré notified no less than forty-six cases of premature burial. "Among these, twenty-one persons returned to life at the time they were about to be deposited in the earth, nine recovered owing to the affectionate attentions of their relations, four from the accidental falling of the coffins, two from a feeling of suffocation in their coffins, three from the puncture of pins in fastening the shrouds, and seven from unusual delay in the funerals; and, it is added, the decease of all these individuals was officially attested."

The author, in commenting on the above, says:—"Statements of this kind can only be received with incredulity, since no particulars by which their accuracy can be tested are given, . . . but if the account given by Carré be true, . . . it is doubtful whether greater negligence could have been shown than that which is here alleged to have occurred on the part of the French officials in modern times."

There is no sufficient ground, as far as one can see, for treating the statement of Carré with "incredulity." Had the French authorities troubled themselves to investigate these deliberate circumstantially-stated particulars furnished by a writer of repute, they could have done so; but evidently this dense atmosphere of "incredulity," which is the very curse of official life and of

medical orthodoxy, blinded French officialdom to the terrible possibilities which their own system of burial entailed. One would have thought that their own French proverb, *Il n'y a point de fumée sans feu*, would have warned them of the necessity of careful investigation into such striking particulars.

But, as to the "negligence of French officials," which, if true, was manifested by these statements, the English author of "Medical Jurisprudence" may be reminded of his own admission that not even an "official" is held responsible for attestation of death in this country, and that probably nine-tenths of the medical certificates of death in Great Britain are given without the certifier ever personally satisfying himself by a visit of the reality of the alleged death. In the face of such a fact, the affectation of "incredulity," and the sneer at "the idle tales of ignorant and superstitious persons," are considerably discounted.

Legally "Dead," but Still Living.

The *Medical Times and Gazette*, 1859, vol. xviii., p. 256, has the following:—

"We find in an account taken from the 'Boston Medical and Surgical Journal' some observations on the heart of a hanged criminal, which are remarkable in a moral point of view, as well as in their scientific aspect. The man died, it appears, as the phrase is, without a struggle; and, therefore, probably in the first instance he fell into a syncope. The lungs and brain were found normal. Seven minutes after suspension, the heart's sounds were distinctly heard, its pulsations being one hundred a minute; two minutes later they were ninety-eight; and in three minutes sixty, and very feeble. In two minutes more the sounds became inaudible. The man was suspended at ten o'clock, and his body was cut down

twenty-five minutes afterwards. There was then neither sound nor impulse. At 10.40 the cord was relaxed, and then the face became gradually pale; the spinal cord was uninjured. . . . At 11.30 a regular movement of pulsation was observed in the right subclavian vein; and, on applying the ear to the chest, there was heard a regular, distinct, and single beat, accompanied with a slight impulse. Hereupon Drs. Clark, Ellis, and Shaw open the thorax, and expose the heart, which still continues to beat! The right auricle contracted and dilated with energy and regularity. At twelve o'clock the pulsations were forty in a minute; at 1.45 five per minute. They ceased at 2.45; but irritability did not entirely disappear until 3.18, more than five hours after suspension. 'This fact,' says M. Séquard, 'demonstrates that in a man, unfortunately, even when syncope exists for some minutes at the commencement of strangulation, the ventricles of the heart cease to beat almost as quickly as they do in strangulation without syncope.' With regard to the moral aspects of this case, the same gentleman remarks:—'People will probably be surprised that the body of this man should have been opened while the beating of the heart was still audible. We will not ask here if the doctors committed or not a blamable action; we will only say that we know them personally, and that if they have in part merited the violent reproaches addressed to them, they are, nevertheless, *hommes de cœur*, who, in an excess of scientific zeal, did not notice that the body upon which they experimented was not, perhaps, at the time a dead body.'"

The above is a ghastly instance of how syncope—that is, the temporary failure of the heart's action—simulating death, may lead to the most revolting consequences. Let us examine this further.

Syncope.

The deaths attributed to syncope in the Registrar-General's reports for England and Wales from 1888 to 1893 are:—

YEAR.		MALES.		FEMALES.
1888	.....	817	.....	896
1889	.....	939	.....	922
1890	.....	1,237	.....	1,250
1891	.....	1,355	.....	1,301
1892	.....	941	.....	943
1893	.....	848	.....	770

From 1894 to 1900 we record the total deaths from "Syncope" and the total "Sudden Deaths" where the causes have been unascertained :—

YEAR.		SYNCOPE.		SUDDEN DEATHS.
1894	.....	1,564	.....	285
1895	.....	1,831	.....	301
1896	.....	1,609	.....	317
1897	.....	1,613	.....	204
1898	.....	1,471	.....	199
1899	.....	1,224	.....	212
1900	.....	883	.....	244

Syncope, however, is not a disease, though often certified as such, but is merely a symptom of certain maladies, or a manifestation of suspended animation from unascertained cause. In Hoblyn's "Dictionary of Medical Terms," p. 632, syncope is described as—"Fainting or swoon; a sudden suspension of the heart's action, accompanied by cessation of the functions of the organs of respiration, internal and external sensation, and voluntary motion." There appears, therefore, every probability that, with careless or ignorant medical practitioners, syncope is not seldom mistaken for trance, and a certificate of death may be given where there is merely

a suspension and not a termination of life; and this probability is reduced to a certainty when we learn the number of premature burials and narrow escapes reported by Winslow, Bruhier, Köppen, E. Bouchut, Lenormand, F. Kempner, Moore Russell Fletcher, Gannal, Gaubert, Hartmann, and other recognised authorities. Dr. James Curry, Senior Physician to Guy's Hospital, and Lecturer on the Theory and Practice of Medicine, in the introduction to his "Observations on Apparent Death," London, 1815, 2 ed., p. 1, says: "The time is still within the recollection of many now living when it was almost universally believed that *life* quitted the body in a very few minutes after the person had ceased to breathe. Remarkable examples to the contrary were, indeed, upon record; but these, besides being extremely rare, were generally cases wherein the *suspension*, as well as the *recovery of life*, had occurred *spontaneously;* they were, therefore, beheld with astonishment, as particular instances of Divine Interposition."

Mistakes Buried Underground.

It is believed that the majority of the members of the medical profession still entertain the idea that a human being is dead when breathing can no longer be detected, as in the cases of reported sudden deaths; and, except in those which occur from drowning, or suffocation through noxious gases, attempts are very rarely made to promote restoration, and, unless they return to life spontaneously while above ground, there are good reasons to fear that an appreciable number do so under ground. The prevailing belief in the existence of

sudden deaths is one of the chief causes of the terrible mistakes that lead to live burials. If this delusive idea were removed, those concerned, such as physicians, undertakers, relatives, and friends, would treat a person who unexpectedly took on the appearance of death as one needing careful attention by physician and nurse to bring him round to health again, as is usually done in cases of fainting. If trance were understood, doctors would be on the lookout for it; but, as it is not understood, it is called death, and we bury our mistakes underground.

Dr. Hilton Fagge, while doubting whether there is any foundation for the strong fear which many persons entertain of being buried alive after supposed death, allows that there is danger in cases of sudden death. In his "Principles and Practice of Medicine," Dr. Fagge says: "The cases really requiring caution are some very few instances of persons found in the streets, or losing consciousness unexpectedly and in unusual circumstances."[1]

Dr. Léonce Lénormand, in "Des Inhumations Précipitées," p. 86, says that medical archives record details of a great number of apoplectic cases revived after one, two, and three days' apparent death; and observes that the most celebrated physicians, both ancient and modern, agree in recommending delay in the burial of persons who succumb to this affliction.

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[1] In the 3rd ed., by Dr. Pye Smith, the following occurs at p. 817 of vol. i., under "Trance":—"These are the cases which have led to the popular belief that death is sometimes only apparent, and that there may be a danger of persons being buried alive: and it cannot be denied that a patient in such a condition might easily be allowed to die by careless or ignorant attendants, or might be buried before death."

Medical Illustrations of "Sudden Death."

Dr. Franz Hartmann, in his "Premature Burial," p. 11, quotes the following:—

"In the Bukovina, a young woman, in the vicinity of Radautz, died of spasms of the heart. They waited five days for the funeral, because no signs of putrefaction appeared. The clergyman then refused any longer delay, and the final arrangements for interment were made. Just as they were about to put the coffin into the grave, the sister of the deceased woman, who lived at another place, arrived, and begged to be permitted to see the dead body. Owing to her entreaties the coffin was opened, and as the woman saw the unaltered features of her sister, she asserted her belief that the supposed dead was still living. She procured a red-hot poker, and, in spite of the remonstrances of those present, she touched with it the soles of the feet of the corpse. There was a spasmodic jerk, and the woman recovered. The most remarkable thing was that the supposed dead woman had not been unconscious for a moment, but was able to describe afterwards all the details of what had taken place around her, from the moment when she was supposed to die up to the time of her recovery; but she had looked upon all that like an unconscious spectator, and not experienced any sensation, nor was she able to give any sign of life."

In "Les Signes de la Mort," by Dr. E. Bouchut, p. 51, Dr. J. Schmid is cited for the case of a girl, seven years of age, who, while playing with her companions, fell suddenly down (as if struck by lightning), and died. There was paleness, absence of pulse, insensibility to all stimulus. Nevertheless, owing to the requests of the distressed parents, the apparently hopeless attempts at resuscitation were continued. After three-quarters of an hour the girl gave a sigh and recovered.

The *Medical Record*, New York, 1883, vol., xxiii., p. 236, contains a paper on "Revivification" (in cases of sudden apparent death from heart disease, and in the still-born), by S. Waterman, M.D., New York. Case 1, February, 1880.—Mr. B——, aged 84, suffered from valvular disease of the heart, and likewise from Bright's disease. "One morning, while I was sitting at his bedside, and in friendly conversation with him, he being to all appearance in a very happy mood of mind, he suddenly fell back, his eyes became fixed and glassy, a deadly pallor crept over his countenance, respiration and the heart's action ceased simultaneously, and death seemed to have carried him off suddenly and unexpectedly. It was this suddenness of the event that impelled me to make efforts at revivification. Two nephews of Mrs. B——, who were fortunately in the house, were brought under requisition, and, under my direction, systematic artificial movements were carried on for nearly thirty minutes, when one deep inspiratory effort was made by the patient himself. Thus encouraged, we redoubled our efforts for ten minutes more; other inspiratory efforts followed in quicker succession; the heart began to respond. Hardly audible at first, it acquired force and momentum; it could now be felt at the wrist; the deadly pallor passed away, the eyes lost their glassy, fixed aspect, sighs and groans could be heard, twitchings of the muscles of the arm and fingers could be distinctly felt, and the appearances of death made way for reanimated conditions. He lay unconscious for more than ten hours, respiration being hurried, and breathing stertorous, the heart's action wild and

irregular. During the night he was delirious and restless; toward morning all untoward symptoms subsided, and a quiet sleep followed the extreme restlessness. . . . He died six weeks afterwards, under symptoms of uræmic toxication. During these six weeks he had several other attacks—one very prolonged and almost fatal—in which artificial respiration was resorted to with the same success."

An Editor's Experience.

The editor of the *Manchester Criterion*, December 11, 1895, says:—"Many cases of sudden death have been entombed who were really alive, so far as the union of the body and soul is concerned. Sudden disappearance of life is very common, due to excessive weakness or a partial cessation of the heart's action; and doctors should be very chary in giving death certificates until it has been ascertained that decomposition has ensued. Many object to this delay, and on the approach of an indication of death, or apparent death, often hurry the body to the grave. We know of a young lady, for whom the shroud was bought, and the crape fastened on the door, who was restored to life."

A Real Peril.

Professor Alexander Wilder, M.D., in "Perils of Premature Burial," p. 16, says:—"In this country (America), however, the peril of interment before death has actually taken place is very great. For years past it has been a very common occurrence for persons in supposed good health to fall down suddenly, with every appearance of having died. We do not regard sudden

death with terror, as it is so often painless, and exempts the individual from the anxiety and other unpleasant experiences which so often accompany a lingering dissolution. But there is a terrible liability of being prostrated by catalepsy, the counterpart of death, under such circumstances that those who have the body in charge will not hesitate about a prompt interment."

"The difficulty of distinguishing a person apparently dead from one who is *really* so has, in all countries where bodies are interred precipitately, rendered it necessary for the law to assist humanity. Of several regulations made on this subject, a few of the most recent may suffice—such as those of Arras in 1772; of Mantua in 1774; of the Grand Duke of Tuscany in 1775; of the Senechaussée of Sivrai in Poitou in 1777; and of the Parliament of Metz in the same year. . . . These edicts forbid the precipitate interment of persons who die suddenly. Magistrates of health are to be informed, that physicians may examine the body; that they may use every endeavour to recall life, if possible, or to discover the cause of death."—Encyclopædia Britannica, quoted by John Snart in "Apparent Death," 1824, pp. 81, 82.

CHAPTER XIII.

SIGNS OF DEATH.

THE ancient philosopher Democritus averred that there was no certain sign of the cessation of life. With this view many authorities have since coincided. Certainly, no one sign is in itself sufficient proof of death, unless it be that of putrefaction. It is rather by a combination of signs that the fact may be ascertained prior to the putrefaction stage; but how far the investigator may be misled will be seen in the following pages.

POPULAR FALLACY.

There exists a common belief that if breathing and pulsation cease for only a brief period it will be impossible for consciousness to be recovered, and a trifling experiment, such as feeling the pulse at the wrist, or holding a mirror to the face, is sufficient to create the belief in the popular mind that death has really taken place.

> "Lend me a looking-glass;
> If that her breath will mist or stain the stone,
> Why, then, she lives."—*King Lear*, act v., scene 3.

But whilst it would appear presumptuous to attempt to doubt or deny a theory so widely accepted by both the lay and medical world, yet numerous well-attested facts conclusively show that such vital actions may be suspended, and may even resist the most rigorous tests known to science, only to be followed by the recovery of the sleeper.

Illustrations of Apparent Death.

Dr. S. Weir Mitchell[1] describes the following:—

"I saw, very many years ago, a handsome girl, twenty years of age, from Cincinnati, who had spells of apparent death, if I may use such a term. One of these I had the good fortune to see, and, indeed, to cause. . . . The young lady happened to be particularly sensitive to odours, and even discussion about the subject would induce an attack. Hystero-epilepsy in this case had given place to 'death spells,' as her friends called them. She said to me: 'I am going to have an attack; feel my pulse. In a few minutes I shall be dead!' The pulse, which just before was about 100, was now racing and quite countless, while the irregularity and violence of the heart's action seemed inconceivable. With the interest of a hysterical woman in her own performances, she said to me: 'Now, watch it; you will be amazed.' This certainly was the case. Within a few minutes the pulse began to fall in number, and, as well as I can recall it, in some fifteen minutes was beating only 40. Then a beat would drop out here and there, the pulse meanwhile growing feebler, until I could no longer feel it nor hear the heart. In this state of seeming death—white, still, without breathing or any perceptible circulation—this girl lay from two to four days. In this time there were spells of a few minutes during which the heart beat again furiously and irregularly, as was also the case when she revived."

Sir B. W. Richardson relates a case observed in 1869

[1] "Lectures on Diseases of the Nervous System, especially in Women." Second edition, 1885, p. 245.

by Dr. Jackson, of Somerby. A man was struck by lightning while driving; he reached his home in a state of great prostration, in which he lay for a long time, and then sank into such complete catalepsy that he was pronounced to be dead, and was laid out as a corpse. He actually heard the sound of his own passing bell, and by a desperate effort moved one of his thumbs, thus attracting the attention of the women around him. He recovered, and lived for some time.

One of the most distinguished physicians in London informed the author that, being called in to decide a case of apparent or real death, he had applied the stethoscope and failed to detect the faintest pulsation in the heart, and yet the woman recovered. The danger of premature burial he believed to be very real and by no means an imaginary one, and his opinions were well known in the profession.

The Mobility Test.

It has been deemed a sure sign of death, when for a considerable period no physical movement takes place; and also when the lower jaw falls directly afterwards. There are, however, fallacies connected with this. Many physical changes may take place after death consequent upon muscular contraction or relaxation, as well as by the generation of gases; and the jaw may be fixed as in strychnine poisoning. Upon the other hand, in certain cataleptic conditions movements are quite imperceptible for considerable periods.

Even electric stimulation, one of the tests of life mentioned by Sir B. W. Richardson in his list quoted

on page 232 is not to be relied upon, as electric excitability usually lasts for some hours after death.

Again, concerning clenched jaws, the *Lancet*, 1870, vol. i., p. 436, quotes a statement by A. de Labordette, Chirurgien de l'Hôpital de Lisieux, in a letter to the Secretary of the Royal National Lifeboat Institution :—

"I have collected manifold observations relating to persons drowned or asphyxiated, in whose case contraction of the jaws was remarked, and who were subsequently restored to life." Dr. Brown Séquard concurred in this, and declared further that such contraction is rather a sign of life than of death.

With these contradictions, the mobility test may be considered worthless.

The Respiratory Test.

This is perhaps the least satisfactory test, the custom of holding a mirror before the mouth, already referred to, being quite untrustworthy.

Sir Benjamin Ward Richardson, in his paper on "The Absolute Signs and Proofs of Death," in the *Asclepiad*, No. 21 (1889), vol. vi., p. 6, says :—

"About the existence of respiratory movements there is always some cause for doubt, even amongst skilled observers; for so slight a movement of respiration is sufficient to carry on life, at what I have in another paper designated 'life at low tension,' that the most practised eye is apt to be deceived."

"The cessation of the indications of respiratory function, although useful in a general sense, is not by any means reliable. It is quite certain that in

poisoning by chloral, and in catalepsy, there may be life when no external movement of the chest is appreciable."—*Ibidem*, pp. 13, 14.

Heart and Circulation Test.

"Equal doubt attends the absence of the arterial pulsations and heart sounds. It is quite certain that the pulses of the body, as well as the movements and sounds of the heart, may be undetectable at a time when the body is not only not dead but actually recoverable."—*Ibidem*, p. 14.

Bouchut found that his original statement made to the Academy of Science, to the effect that an interruption of the action of the heart lasting for two minutes was a certain proof of death, was incorrect. He thinks the heart should be listened to for half-an-hour. Dr. Brouardel, in commenting upon this, says[1]:—"You cannot listen to a heart for half-an-hour continuously. Try to do so; in five or six minutes you will hear buzzing and murmurs of all sorts, and at last you will hear the beating of *your own* heart. . . . . The absence of the beats of the heart may be considered as a sign of apparent death, but not of real death."

In a review of several works on the "Signs of Death" in *The British and Foreign Medical and Chirurgical Review*, vol. xv. [1855], p. 74, W. B. Kesteven writes: "M. Josat has recorded several instances wherein newly-born children have been most carefully examined during several minutes without the detection of the

[1] "Death and Sudden Death," p. 15.

slightest cardiac sound or movement, and yet these have rallied and lived. M. Depaul has collected ten similar instances. M. Brachet has recorded[1] an instance of a man in whom neither sound nor movement of the heart could be heard for eight minutes, and who nevertheless survived. Another adult case is mentioned by Dr. Josat as having been witnessed by M. Girbal, of Montpellier. . . . Sir B. Brodie and others have described children born without hearts. The circulation is maintained at one period of human life without the aid of the heart. It is, besides, quite consistent with the facts observed in hysterical and other conditions of the nervous system, that the action of the heart, like that of other muscles, should be so extremely feeble as not to be cognisable by any sound or impulse, and yet it may have sufficient movement slowly to move the blood through the system, whose every function and endowment is suspended and all but annihilated. In cases of catalepsy, and of authentic instances of apparent death, the respiratory muscles have not been seen to move, yet inspiration and expiration—however slowly and imperceptibly—must have taken place."

Rigor Mortis Test.

By *rigor mortis* is meant that condition of rigidity which sets in after death, and which is frequently of so marked a character that it is impossible to flex the limbs, and the body may be lifted like a plank of wood. It may, however, be so slightly marked as to escape the most careful observation. In exhaustive

[1] *Bulletin Therap. Méd.*, tome xxvii., p. 371.

illnesses, or after great fatigue, *rigor mortis* appears early and does not last long, but in the case of persons dying while in good health its onset is delayed and its duration much longer. Its causes and mode of production are practically unknown.

Dr. Roger S. Chew observes:—"*Rigor mortis* is a condition that seldom or never supervenes in the hot weather in India, and is often a feature of catalepsy." In persons dying of sunstroke, the rigidity comes on very late. When a corpse is kept in a warm and moist atmosphere, *rigor mortis* is usually early and short.

The danger of mistaking the rigidity of a cataleptic condition for the rigidity of death has been pointed out by Ebenezer Milner, M.D. Edin., L.R.C.S.E., in the *Edinburgh Medical and Surgical Journal*, 1850, vol. lxxiv., p. 330, where he says, "Patients labouring under an intense and prolonged paroxysm of catalepsy have been supposed to be dead, and have been buried alive"; and, in speaking of severe cases, says, "The stiffness of the limbs accompanying this intense form of trance supervenes at once, and lasts as long as the paroxysm continues."

The Diaphanous Test.

This was considered at one time of such importance that the French Academy awarded a prize for its discovery. Its actual value has been well gauged by Edwin Haward, M.D. Edin., F.R.C.S. Eng., in the *Lancet* of June 10, 1893, p. 104:—

"The diaphanous test consists in taking a hand of a supposed dead person, placing it before a strong artificial light, with the fingers extended and just touching

each other, and then looking through the narrow spaces between the fingers to see if there be there a scarlet line of light. The theory is that if there be such a line of scarlet colour there is some circulation still in progress, and therefore evidence of vital action, whilst if there be no illumination, then the circulation has ceased and death has occurred. The illustration I am about to give indicates, however, that this test must be received with the utmost caution. The facts run as follows:—I was called in January last to visit a lady seventy-three years of age, suffering from chronic bronchitis. She had often suffered at intervals from similar attacks during a period of twenty-five years. The present attack was very severe, and as she was obviously in a state of senile decrepitude her symptoms naturally gave rise to considerable anxiety. Nevertheless she rallied and improved so much that after a few days my attendance was no longer required. I heard nothing more of this lady until February 6—a period of three weeks—when I was summoned early in the morning to see her immediately. The messenger told me that she had retired to bed in the usual way, and had apparently died in the night, but that she looked so life-like there was great doubt whether death had actually taken place. Within half-an-hour I was by her bedside; there was no sign of breathing, of pulse, or of heart-beat, and the hands, slightly flexed, were rather rigid, but the countenance looked like that of a living person, the eyes being open and life-like. I believed her to be dead, and that the rigidity of the upper limbs indicated commencing *rigor mortis;* but this curious fact was related to me by a near relative, that once before she had passed

into a death-like state, with similar symptoms, even to the rigidity of the arms and hands, from which state she had recovered, and after which she had always experienced the direst apprehension of being buried alive. Her anxiety, it will be easily conceived, was readily communicated to her relatives, who urged me to leave nothing undone for determining whether life was or was not extinct. Under the circumstances I suggested that Dr. (now Sir) Benjamin Ward Richardson, who has made the proofs of death a special study, should be summoned. He soon arrived, and submitted the body to all the tests in order. . . . Of the nine tests, eight distinctly declared that death was absolute; the exception, the fluidity of the blood, being a phenomenon quite compatible with blood preternaturally fluid and at a low temperature, even though death had occurred. There now remained the diaphanous test, which we carried out by the aid of a powerful reflector lamp, yielding an excellent and penetrating light. To our surprise the scarlet line of light between the fingers was as distinct as it was in our own hands subjected to the same experiment. The mass of evidence was of course distinctly to the effect that death was complete; but, to make assurance doubly sure, we had the temperature of the room raised and the body carefully watched until signs of decomposition had set in.

"The results of these experimental tests were satisfactory, as following and corroborating each other in eight out of the ten different lines of procedure; but the point of my paper is to show the utter inadequacy of the diaphanous test, upon which some are inclined entirely to rely. Sir Benjamin Richardson has reported

an instance in which the test applied to the hand of a lady who had simply fainted gave no evidence of the red line; she therefore, on that test alone, might have been declared dead. In my case the reverse was presented; the body was dead, whilst the red line supposed to indicate life was perfectly visible. Hence the test might possibly lead to a double error, and ought never of itself to be relied upon.

"It is a question worthy of consideration whether the colouration observed was due to the fluid state of the blood after death; it is not unreasonable to suppose so, but I prefer merely to offer the suggestion without further comment."

Orfila, "Médicine Légale," vol. i., p. 478, fourth edition, observes:—

"This sign can be of no use, because it is easy to prove that the fingers of corpses placed between the eye and the flame of a candle are transparent, even when this experiment is made one or two days after death."

The Putrefaction Test.

In the fourth (and last) edition of his able and most instructive work on "Cremation," Sir Henry Thompson admits "that there is but one really trustworthy proof that death has occurred in any given instance, *viz.*, the presence of a manifest sign of commencing decomposition. This condition is always ascertainable, at all events to the professional eye, and it should always be verified before a certificate of death is signed."

This view is corroborated by those who are fitted to speak with authority on the subject. Dr. Roger S. Chew, of Calcutta, whose experiences have been already

referred to, says: "Numerous experiments have been suggested as means of ascertaining whether a body is really dead or whether the animation is temporarily suspended; but, though these suggestions may collectively yield a correct diagnosis, still they are valueless when separately considered, and cannot compare with the 'putrefaction test.'"

Dr. Hilton Fagge, in his "Principles and Practice of Medicine," vol. i., p. 19, writing of cases where great uncertainty exists as to whether life is extinct or merely suspended, says:—

"*I believe that the only sign of death which is both certain to manifest itself in the course of a few days, and also absolutely conclusive and infallible, is the occurrence of putrefaction*, which is generally first indicated by discolouration of the surface of the abdomen. And in any case admitting of doubt, the coffin should not be closed until this has shown itself." (Italics ours.)

This question has aroused much interest also in America. In an article in the *Medical Examiner*, Philadelphia, vol. vi., p. 610, the writer says:—"A recent French reviewer in the *Gazette Médicale* closes a survey of the differences between real and apparent death by the following remarks: 'Experience,' says he, 'has shown the insufficiency of each of these signs, with one exception—*putrefaction*. The absence of respiration and circulation, the absence of contractility and sensibility, general loss of heat, the hippocratic face, the cold sweat spreading over the body, cadaveric discolouration, relaxation of the sphincters, loss of elasticity, the flattening of the soft parts on which the body rests, the softness and flaccidity of the eyes, the

opacity of the fingers, cadaveric rigidity, the expulsion of alimentary substances from the mouth—all these signs combined or isolated may present themselves in an individual suffering only from apparent death.'"

Dr. Gannal, in "Signes de la Mort," p. 31, bears out this view:—

"I share the opinion of the majority of authors who have written on this subject, and I consider *putrefaction* as the only certain sign of death." The author then shows that all other signs are uncertain, and adds "that it is possible, by taking certain measures, to wait until putrefaction is well manifest, without injuring the public health." If the attending medical practitioner could always be relied upon to look for any such combination of signs as above suggested, there would be much less danger of premature burial than at present almost everywhere prevails; but personal investigation obliges the author deliberately to declare that these are looked for only in a comparatively few instances.

"*Ecchymosis*, or *post-mortem* stains," writes Dr. Chew, "are sometimes of value, but frequently they do not appear, even though there are strong evidences of putrefaction having set in, and in some cases this cadaveric lividity, as it is termed, may be the result of violence received before animation was suspended, and, the vital spark not having been extinguished though the body was apparently dead, ecchymosis had asserted itself as a process of life, and not death."

Dr. Franz Hartmann, whose monograph[1] has excited

[1] "Premature Burial: An Examination into the Occult Causes of Apparent Death, Trance, and Catalepsy." By Franz Hartmann, M.D. Second edition. (London: Swan Sonnenschein & Co. One shilling.)

much attention both in the English and American Press, observes:—

"Apparent death is a state that resembles real death so closely that even the most experienced persons believe such a person to be really dead. In many cases not even the most experienced physician, coroner, or undertaker can distinguish a case of apparent death from real death, neither by external examination nor by means of the stethoscope, nor by any of the various tests which have been proposed by this or that writer, for all those tests have been proved fallible, and it is now useless to discuss them at length, because many of the most experienced members of the medical profession have already agreed that there is no certain sign that a person is really and not apparently dead, except the beginning of a certain stage of putrefaction. All other tests ought to be set down as delusive and unreliable."

Sir B. W. Richardson's "Signs."

Sir Benjamin Ward Richardson read a paper before the Medical Society of London on "The Absolute Signs and Proofs of Death," published (in 1889) in No. 21 of the *Asclepiad*. The circumstance which originated his investigation was a case of the revival of an apparently dead child immediately before the funeral. Dr. Richardson has seen persons apparently dead, and presenting all the signs of death, but who were really living. Amongst these he cites the following:—

"A medical man found dead, as it was presumed, from an excessive dose of chloral. To all common observation this gentleman was dead. There was no sign of respiration; it was very difficult for an ear so

long trained as my own to detect the sounds of the heart; there was no pulse at the wrist, and the temperature of the body had fallen to 97° Fahr. In this condition the man had lain for some hours before my arrival; and yet, under the simple acts of raising the warmth of the room to 84° Fahr. and injecting warm milk and water into the stomach, he rallied slowly out of the sleep, and made a perfect recovery."

Medical practitioners frequently assert that the signs of death are quite easy and impossible to mistake. Dr. Richardson, who has had the best of reasons, as already shown, for observation and investigation, holds a different opinion, and enumerates the signs of death as follows :—

(1) Respiratory failure, including absence of visible movements of the chest, absence of the respiratory murmur, absence of evidence of transpiration of water-vapour from the lungs by breath.

(2) Cardiac failure, including absence of arterial pulsation, of cardiac motion, and of cardiac sounds.

(3) Absence of turgescence or filling of the veins on making pressure between them and the heart.

(4) Reduction of the temperature of the body below the natural standard.

(5) *Rigor mortis* and muscular collapse.

(6) Coagulation of the blood.

(7) Absence of signs of rust or oxidation of a bright steel blade, after plunging it deep into the tissues. (The needle test of Cloquet and Laborde.)

(8) Absence of red colour in semi-transparent parts under the influence of a powerful stream of light.

(9) Absence of muscular contraction under the stimulus of galvanism, of heat, and of puncture.

(10) Absence of red blush of the skin after subcutaneous injection of ammonia (Montiverdi's test).

(11) Putrefactive decomposition.

Sir Benjamin sums up as follows:—

"If all these signs point to death—if there be no indications of respiratory function; if there be no signs of movement of the pulse or heart, and no sounds of the heart; if the veins of the hand do not enlarge on the distal side of the fillet; if the blood in the veins contains a coagulum; if the galvanic stimulus fails to produce muscular contraction; if the injection of ammonia causes a dirty brown blotch—the evidence may be considered conclusive that death is absolute. If these signs leave any doubt, or even if they leave no doubt, one further point of practice should be carried out. The body should be kept in a room, the temperature of which has been raised to a heat of 84° Fahr., with moisture diffused through the air; and in this warm and moist atmosphere it should remain until distinct indications of putrefactive decomposition have set in.

The *Medical Press and Circular* of October 20th, 1897, commenting upon the above, says:—"It is obvious from this that Sir B. W. Richardson, who was admittedly a very high, if not the greatest, authority on the subject, was of opinion that there is only one absolute sign of death, and that there is more or less risk where this is not waited for. In his own case he left strict instructions with his family that after supposed death his body was not to be

removed until this unequivocal test was manifest; and his wishes were religiously observed."

Precautions in Würtemberg.

In the Royal Decree issued by the Government for examining the dead in Würtemberg, dated January 24, 1882 (*Dienst-Vorschriften für Leichenschauer*, Stuttgart, 1885), various signs and experiments for enabling the official inspector of deaths to ascertain if actual death has taken place are laid down. Among these are:—

(1) "The cessation of sensibility may be assumed if, on raising the eyelid, the pupil remains unaltered when a lighted candle is held close to it; or if pungent odours, such as those derived from onions, vinegar, volatile ammonia, or by severe friction of the chest, arms, or soles of the feet, the application of mustard, or burning tinder, or if sealing-wax dropped upon the chest produces no reaction, and particularly if in the latter case the skin does not blister.

(2) "The stoppage of the circulation of the blood, apart from the absence of heart-beating, if, after tying a tight bandage around the arm, the veins do not swell up, upon the hands being firmly gripped; also if, upon pricking the lips, no blood escapes; furthermore, if, on holding the hand in front of a bright light (the diaphanous test), the finger-tips are no longer translucent as in the living."

Nor should the inspector ever neglect to examine the heart to ascertain the complete absence of all sound, and to test the absence of breath by other experiments.

The rescript further adds that these experiments "may not furnish absolute proof of death," and describes what further proceedings to institute. These are referred to in this volume in the chapter devoted to Death-Certification.

THE LANCET ON THE UNCERTAINTY OF SIGNS.

An editorial note in the *Lancet*, January 29, 1887, p. 233, shows the difficulty of distinguishing real from apparent death:—"It was only last year that we commented in our columns upon the 'signs of death,' drawing attention to the more important criteria by which a skilful observer may avoid mistaking cases of so-called suspended animation from actual decease. Quite recently two instances have been recorded, in which, if report be true, it would seem there is still room for maturing the judgment upon the question herein raised. At Saumur a young man afflicted with a contagious disease apparently died suddenly. His body was enshrouded and coffined, but as the undertaker's men were carrying the 'remains' to their last resting-place they heard what they believed to be a knocking against the coffin-lid, and the sound was repeated in the grave. Instead of testing at once the evidence of their senses, they, in accordance with judicial custom, sent for the Mayor, in whose presence the lid was removed from the coffin. Whereupon, to the horror of the spectators, it was observed that the dead man had only just succumbed to asphyxia. The above narrative seems on the face of it too ghastly to be true, especially as the occupant of the coffin must have been shut up in a space containing oxygen in

quantity totally inadequate to sustain an approximation to ordinary breathing. But in cataleptic and similar states the organic functions are reduced to the lowest ebb, and history records several instances in which, for a time at least, the determination of the living state was a matter of uncertainty. In our issue of the 15th inst., p. 129, the reader will find an account of '*Post-mortem* Irritability of Muscle,' in which the phenomenon was manifested in a marked degree two hours after death from a chronic wasting disorder—a condition which favours early extinction of vital action in muscle. It may be argued, then, with some show of reasonableness, that it is quite possible for the heart to stand still, as it were, and yet retain the power of action, although experience tells us but little on the question as regards the human subject. Experiments on the lower animals, however, show that over-distention of the right cavities of the heart causes cessation of cardiac contraction, and that relief from the distention may be followed by resumption of the function of contractibility. It must not be forgotten that an analogous condition is witnessed at times in patients suffering from capillary bronchitis or other physical states underlying acute distension of the right heart; for, in these cases, venesection is not uncommonly instrumental in arresting the rapidly failing cardiac contractions. The second case of apparent death alluded to above happened in 'the land of big things.' An inhabitant of Mount Joy, Paramatta, was believed to be dead, and his supposed remains were about to be committed to the earth, when a mourning relative startled the bystanders by exclaiming, 'I must see my

father once more; something tells me he is not dead.' The coffin was taken from the grave to the sexton's tool-house, and there opened, and was found to contain a living inmate, who justified the presentiment of his son by 'slowly recovering.' As no mention is made in either case of the period that elapsed between the occurrence of apparent death and the body being placed in the coffin, or of the time during which the encasement lasted, special and minute criticism is uncalled for. Enough has been said on the subject to emphasize the exhortation, 'Get knowledge, and with all thy getting get understanding.'"

The British Medical Journal's Criticism.

The *British Medical Journal*, of September 28, 1895, in a leading article on the "Signs of Death," says:—

"The question of the possibility of the interment of living beings has recently been exercising the minds of a portion of the public, whose fears have found expression in a series of letters to some of the daily papers. It is a matter of regret that so much irresponsible nonsense and such hysterical outpourings should find a place in the columns of our great daily press. No attempt at the production of evidence in support of their beliefs or fears has been made by the majority of writers, whilst the cases mentioned by the few are either the inventions of the credulous or ignorant, or are destitute of foundation. It cannot be said that the few medical men who have joined in this public correspondence have either contributed any useful information or have seriously attempted to allay the fears of the public. One medical gentleman managed to earn for himself a cheap

notoriety by employing, with very scanty acknowledgment of the source, copious extracts from Dr. Gowers' article on 'Trance' in Quain's 'Dictionary of Medicine.'

"The possibility of apparent death being taken for real death can only be admitted when the decision of the reality of death is left to ignorant persons. We are quite unprepared to admit the possibility of such a mistake occurring in this country to a medical practitioner armed with the methods for the recognition of death that modern science has placed at his disposal. Moreover, even by the ignorant the reality of death can only be questioned during the period preceding putrefaction. During this period various signs of death appear which, taken collectively, allow of an absolute opinion as to the reality of death being given. To each of these, as a sign of death, exception may perhaps be individually taken, but a medical opinion is formed from a conjunction of these signs, and not from the presence of an individual one."

The writer must surely have overlooked the able treatises by Winslow, Kempner, Russell Fletcher, Bouchut, Hartmann, Gannal, and others, supported by evidence in the aggregate of thousands of cases of premature burial, or narrow escapes, or have forgotten the dreadful cases which have appeared from time to time in the columns of the *British Medical Journal* itself. Commenting upon the case of a child nearly buried alive, this medical authority in its issue of October 31, 1885, under the head of "Death or Coma?" sensibly refers to some of the difficulties in distinguishing apparent from real death as follows:—

"The close similarity which is occasionally seen to connect the appearance of death with that of exhaustion following disease was lately illustrated in a somewhat striking manner. An infant, seized with convulsions, was supposed to have died about three weeks ago at Stamford Hill. After five days' interval, preparations were being made for its interment, when, at the grave's mouth, a cry was heard to come from the coffin. The lid was taken off, and the child was found to be alive, was taken home, and is recovering. Such is the published account of the latest recorded case of suspended animation. We need not now attempt a dissertation on the physical meaning of coma. It is well known that this condition may last for considerable periods, and may at times, *even to the practised eye*, wear very much the same aspect as death. In the present instance, its association with some degree of convulsion may easily have been mistaken by relatives, dreading the worst, for the rigid stillness of *rigor mortis*. This is the more likely since the latter state is apt to be a transient one in infants, though it is said to be unusually well marked in death from convulsions. One cannot, however, help thinking that the presence of the various signs of death was not, in this case, very carefully inquired into. It is hardly possible that, had the other proofs as well as that of stiffening been sought for, they would have been missed. *It is true that hardly any one sign short of putrefaction can be relied upon as infallible.* In actual death, however, one may confidently reckon on the co-existence of more than one of these. After a period of five days, not one should have been wanting. Besides *rigor mortis*, the total absence of which, even in forms of

death which are said not to show it, we take leave to doubt, the *post-mortem* lividity of dependent parts affords sure proof, as its absence suggests a doubt, of death. Then there is the eye, sunken, with glairy surface, flaccid cornea, and dilated insensitive pupil. Most practitioners, probably, are accustomed to rely upon stethoscopic evidence of heart-action or respiration. These alone, indeed, are almost always sufficient to decide the question of vitality, if they be watched for during one or two minutes. There is no information as to whether the child so nearly buried alive was seen by a medical man. It is difficult to believe that, if it had been, some sign of life would not have been observed. Still, the case is a teaching one, even for medical men, and warns us to look for a combination of known tests where any doubt exists as to the fact of death." The italics are ours.

Medical Expressions of Difficulty.

Prof. Alex. Wilder, M.D., in "Perils of Premature Burial," p. 20, says:—"The signs of total extinction of life are not so unequivocal as many suppose. The apparent cessation of respiration and circulation do not afford the entire evidence, for the external senses are not sufficiently acute to enable us to detect either respiration or circulation in the smallest degree compatible with mere existence. Loss of heat is by no means conclusive; for life may continue, and recovery take place, when no perceptible vital warmth exists."

M. B. Gaubert, in "Les Chambres Mortuaires d'Attente," p. 187, Paris, 1895, says:—"One of the most celebrated physicians of the Paris hospitals,

according to Dr. Lignières, declares that, out of twenty certified deaths, only one presented indubitable characteristics of absolute death."

The difficulty of diagnosis which in many cases must be allowed renders the obligation and necessity for a radical change in our methods of treating the supposed dead a very urgent one. Medical writers, whilst admitting the unsatisfactory nature of the current practice of medical certification, allege that the remedy lies with Parliament to make compulsory a personal medical inspection of the dead, and to allow a fee as compensation for the trouble. This, however, would be very far from meeting the difficulty. How many general practitioners would be willing to submit half-a-dozen, say, of the eleven tests of death formulated by Sir Benjamin Ward Richardson, in any given case, and if willing, how many, having regard to the fact that these tests are not taught in the Medical Schools, and form no part of the usual medical curriculum, would be competent to make them with the requisite skill? In most of the Continental States there are State-appointed surgeons to examine the dead, *médecins vérificateurs*, and in some of these—Würtemberg, for instance—the official is obliged to examine the corpse several times before his certificate is made out. But notwithstanding this careful official inspection, cases of premature burial and narrow escapes are telegraphed by *Reuter* and *Dalziel* every now and then to the English Press, as we have seen, and additional details, with the names and addresses of the victims, are furnished by responsible special correspondents.

The best proof that one can give of the uncertainty

of the signs of death is the great divergence of opinion amongst medical experts. Dr. Gannal in "Signes de la Mort," Paris, 1890, p. 27, observes:—"If any of these signs had presented characters of absolute certainty, it is unquestionable that the unanimity of authors would have recognised it; now, there is none. One sign held to be good by some, is declared bad by others." Dr. Gannal affirms with iteration that there is only one unequivocal sign and proof of dissolution—decomposition. All authorities agree that whatever degree of doubt attends the ordinary appearance of death, none dispute that this amounts to a demonstration.

The Danger of Haste.

The Lisbon correspondent of the *Daily Illustrated Mirror*, on March 15, 1904, details a strange case which occurred at a small village called Montouro, in northern Portugal:—

"An old villager died, and, after having been prepared for burial, a nephew of his, who was a barber, was called in at night to shave him, as is customary here. The supposed corpse was merely in a cataleptic trance, and as soon as the barber put cold water on his face he sat up and began to talk wildly. The barber was so terrified that he became raving mad, and, rushing screaming from the house, called upon the villagers to see the miracle which he had worked."

When standing round the bed of a sick patient, reduced to a state of coma or suspended animation, to which death is the expected termination, as soon as the doctor utters the fatal words "all is over," no one present thinks of doubting the verdict, or putting it

to the test. Mr. Clarke Irvine, who has had a wide experience, writing in the *Banner of Light*, December 14, 1895, Boston, U.S., says:—

"I have known of hundreds of deaths in my experience, and never have I known of any instance wherein a bystander has doubted save once, and then the person supposed dead was revived, and is now living out in Colorado. The mere accident of a stranger coming in just previous to the enclosing in a coffin prevented the man from the awful fate of burial alive, so far as we can see.

"In one other, the supposed dead man came to life a little before the time set for his funeral, by the accident of someone seizing hold of his foot; he is still living, and a resident of this country. The case was widely published in the newspapers after he was interviewed by a reporter in Chicago, where the rescued man was visiting at the time of the Great Fair. He is known as Judge William Poynter. I saw him a few days ago, and have heard him relate the experience.

"The case of the little girl who was rescued while the funeral was in progress, at St. Joseph, Missouri, I have already contributed to *The Banner*. These people were saved by a mere chance; how many have passed underground forever, of whom nothing was ever suspected! All through the country people are dying or apparently dying, or falling into death-like trances daily, and being placed in their coffins *as a matter of course*, and hurried to and into their graves, *as of course* also—and in the very nature of things it must be and must have been that hundreds upon hundreds have been and are being

consigned to that most awful of all the dooms possible. The horror of the thing is simply unspeakable."

Official Regulations in Bavaria.

The following are extracts from the Police Regulations for the inspection of the dead and the prevention of premature burial in Bavaria, issued by the Royal State-Ministry for Home Affairs:—

§ 4.

In public hospitals, penitentiaries, charitable or other similar homes or institutions, the duty of inspection falls upon the physician in chief.

Outside these institutions the inspectors must be chosen, in the first instance, from among physicians, after them surgeons, former assistants of military hospitals, and lastly, in default of such, from lay people. The latter must, however, be of undoubted respectability, and, before their appointment, must be properly instructed by the district physician, and subjected from time to time to an examination.

§ 6.

As a rule the inspection of dead bodies must be made once if by doctors, and twice if by laymen. In communities which possess a mortuary a *second inspection* has to be made, even though the regular inspection has previously been made by doctors or laymen.

§ 7.

The first inspection has to be made as soon as possible after death, and, where practicable, within twenty-four hours, and in cases described under § 6, sec. 2, at least before removal of the body to the mortuary.

The second inspection must take place just before burial.

§ 8.

The body, until the arrival of the inspector, must be left in an undisturbed position, with the face uncovered, and free from closely-fitting garments.

The instructions of the inspector, for the resuscitation of a body suspected of apparent death only, are to be followed most strictly.

§ 9.

The inspector has to give a certificate of corpse inspection confirmatory of his inspection, but he must only issue the same if he has fully ascertained the actuality of death.

§ 10.

(1) As a rule the bodies must not be interred before the lapse of 48 hours, but not later than 72 hours after death.

The police authorities may, however, at the recommendation of the corpse inspector, exceptionally grant permission for the burial before the expiration of 48 hours if a *post-mortem* dissection has taken place, also if decomposition has set in, and if on account of lack of room the body has to be preserved in an overcrowded habitation.

Appendix to the Police Instructions as to Corpse Inspection and Time of Burial, of 20th November, 1885.

I.

The purpose of corpse inspection is to prohibit the concealment of deaths by violent means or resulting from medical malpractices; to detect infectious diseases, and the establishment of correct death lists; and particularly *to prevent the burial of people only apparently dead.* For this purpose each corpse is to be closely examined on the first inspection as to any signs of death, both in the front and the back of the body.

II.

The inspectors have primarily to establish the actuality of death by observing and notifying all the symptoms accompanying or following the decease.

Indications of death may be noted :—

(1) If there is no indication of any pulsation noticeable, either in the region of the heart, at the neck, at the temples, or the forearm.

(2) If the eyelids when pulled asunder remain open, and the eyes themselves appear sunken into their sockets, dulled, and lustreless, also if the eyeballs feel soft and relaxed.

(3) If parts of the body are pale and cold, if chin and nose are pointed, if cheeks and temples are sunken.

(4) If the lower jaw hangs down, and immediately drops again if pushed up, or if the muscles feel hard and stiff (rigidity).

(5) If the skin of the fingers held against one another, held towards light, do not appear reddish.

(6) If a feather or burning candle held against the mouth shows no sign of motion, or if there is no sign of moisture upon a looking-glass held before the mouth.

(7) If on different parts of the body, particularly the neck, back, or posterior, or the undersurface of the extremities, there are bluish-red spots (death spots) visible.

(8) If the skin, particularly at the sides of the stomach, show a dirty-green discolouration (decomposition spots).

The non-medical inspector has to observe at least all the symptoms 1 to 4.

In doubtful cases the medical inspectors are advised to test the muscles and nerves by electric currents.

IV.

If the inspection gives rise to suspicions of apparent death (Scheintod), the inspector must (if he is not himself a doctor) immediately call for the assistance of a practised physician, so as to establish the actual condition, and to adopt the necessary measures for resuscitation, as follows :—

(1) Opening of the windows, and warming the room.

(2) Efforts at artificial respiration.

(3) Applications of warm mustard-plaisters to the chest and the extremities.

(4) Rubbing with soft brushes, with cloths saturated in vinegar or spirit of camphor, also with hot woollen cloths.

(5) Irritation of the throat with a feather.

(6) Smelling sal-ammoniac.

(7) Dropping from time to time a few drops of "extract of balm," or similar essences, into the mouth.

Unless medical aid has meanwhile arrived, the application of these measures must be continued until the apparently dead comes back to life, and begins to swallow, in which case he ought to have warm broth, tea, or wine, or until there is absolutely no doubt as to the total ineffectiveness of all attempts at reanimation.

CHAPTER XIV.

DURATION OF DEATH-COUNTERFEITS.

THE differences observed in the length of time that persons have remained in this condition depended, doubtless, upon the constitutional peculiarities of the patients—such as strength or weakness—or upon the nature of the disease from which they may have suffered. Struve, in his Essay, pp. 34-98, says "that it depends upon the proportion of vital power in the individual. Hence children and young persons will endure longer than the aged. Also upon the nature of the element in which the accident happened, whether it contained greater or less proportion of oxygenated or carbonic acid gas, or other poisonous vapours. The latent vital power seems to be much longer preserved when animation has been suspended by cold. A man revived after being under snow forty hours. Persons apparently dead sometimes awake after an interval of seven days, as was the case with Lady Russell. . . . In the female sex, the suspension of vital power, spasms, fainting fits, etc., originating from a hysterical, feeble constitution, are not rare, nor is it improbable that the state of apparent death may be of longer duration with them; nay, it may be looked upon as a periodical disorder, in which all susceptibility of irritation is extinguished." Struve further remarks, p. 98, "that the state in which the vital power is suspended, or in which there is a want of susceptibility

of stimuli, consists of infinite modifications, from the momentary transient fainting fit to a death-like torpor of a day's duration. The susceptibility of irritation may be completely suppressed, and the apparently dead may be insensible of the strongest stimuli, such as the operation of the knife and the effects of a red-hot iron."

M. Josat, in "De la Mort et de ses Caractères," gives the result of his own observations in one hundred and sixty-two instances, in which apparent death lasted—

In 7	.....	from 36 to 42 hours.
20	.....	„ 20 to 36 „
47	.....	„ 15 to 20 „
58	.....	„ 8 to 15 „
30	.....	„ 2 to 8 „

The order of frequency of diseases in which these occurred was as follows:—Asphyxia, hysteria, apoplexy, narcotism, concussion of the brain, the cases of concussion being the shortest.

Life in the Grave.

The length of time a person may live in the grave will depend upon similar concomitant conditions; but, all things considered, a person buried while in a state of trance, catalepsy, asphyxia, narcotism, nervous shock, etc., and in any of the other states that cause apparent death without passing through a course of disease, and that occur during his or her usual health, will have a longer struggle before life becomes extinct than one whose strength had been exhausted by an attack of

sickness. Estimates of the duration of such a struggle differ considerably. Some writers believe that "however intense, it must be short-lived." As to the prolongation of the horrible suffering incident to such tragic occurrences, Dr. Léonce Lenormand, in his "Des Inhumations Précipitées," pp. 2-4, observes—"It is a mistake to think that a living person, enclosed in a narrow box, and covered with several feet of earth, would succumb to immediate asphyxiation."[1]

Dr. Charles Londe, in his "La Mort Apparente," remarks:—"It has been calculated that, after one

[1] "Pour se convaincre de l'erreur où l'on tomberait en adoptant cette opinion populaire, il suffit de refléchir d'abord qu'un cercueil n'est pas exactement moulé sur les proportions du corps qu'il contient; que, par consequent, tous les intervalles sont remplis d'air respirable, en quantité très-grande, égale à-peu-près à un cube dont le côté aurait 50 centimètres de hauteur. Or, chaque inspiration absorbe environ 1,200 centimètres cubes d'air dont l'oxygène n'est employé dans l'hématose que pour sa cinquième partie, le reste étant rendu pendant l'expiration; il en resulte donc que chaque inspiration ne consomme en réalité que 240 centimètres cubes. L'homme, à l'état normal, respire à-peu-près 800 fois par heure; et, comme un cube de 50 centimètres de côté contient 125,000 centimètres cubes, on doit conclure que cette quantité d'air peut suffire à 520 inspirations normales, c'est à dire à soutenir la vie pendant près de trois quarts d'heure. Mais, d'un autre côté, il est démontré, en botanique, que l'air filtre dans la terre; celui contenu dans le cercueil peut donc en partie se renouveler. On doit nécessairement tenir compte de la nature du terrain où le cercueil a été déposé: s'il est sec, léger ou sablonneux, il laissera pénétrer, circuler pour, ainsi dire, l'air atmosphérique plus facilement, que des terres humides, grasses ou argileuses. Ajoutons enfin, que les quantités determinées plus haut pourraient être réduites de plus de moitié, sans causer directement la mort. On voit donc qu'un homme peut vivre sous terre pendant plusieurs heures, et que ce temps sera d'autant plus court que le sujet sera plus pléthorique, c'est-à-dire predisposé aux congestions cérébrales, puisque, dans ce cas, ses inspirations seront plus larges et plus frequentes."

quarter of the quantity of atmospheric air contained in the coffin—approximately estimated at one hundred and twenty litres—was exhausted, death would set in; therefore it is quite certain that, if the shroud is thick, and the coffin well closed, and the grave impenetrable to the atmosphere, life could not last more than forty to sixty minutes after inhumation. But is not that a century of torture?"

Some allowance should be made for the persistence of the vital energy, which continues after all atmospheric air is cut off. "Experiments on dogs show that the average duration of the respiratory movements after the animal has been deprived of air is four minutes five seconds. The duration of the heart's action is seven minutes eleven seconds. The average of the heart's action, after the animal has ceased to make respiratory efforts, is three minutes fifteen seconds. These experiments further showed that a dog may be deprived of air during three minutes fifty seconds, and afterwards recover without the application of artificial means."[1]

Prof. P. Brouardel, M.D., Paris, in "La Mort Subite," p. 35, observes that:—"A dog, placed in a common coffin, lived five to six hours; but a dog occupies less room than a man, who, in such a coffin, when closed, would not have more than one hundred litres, so he would possibly live twenty minutes. I would not wish anybody to pass twenty such cruel minutes."

"Mr. Bernard, a skilful surgeon of Paris, certified

[1] Report on "Suspended Animation." By a Committee of the Royal Med. Chirur. Society, July 12, 1862.

that, in the parish of Riol, he himself, and several other bystanders, saw a monk of the Order of St. Francis, who had been buried for three or four days, taken from his grave breathing and alive, with his arms lacerated near the swathes employed to secure them; but he died immediately after his releasement. This gentleman also asserts that a faithful narrative of so memorable an accident was drawn up by public authority, and that the raising of the body was occasioned by a letter written from one of the monk's friends, in which it was affirmed that he was subject to paroxysms of catalepsy."—"The Uncertainty of the Signs of Death," by Surgeon M. Cooper, Dublin, 1748.

Historical Cases of Live Burial.

In a volume entitled "Information Relative to Persons who have been Buried Alive," by Heinrich Friedrich Köppen, Halle, 1799, dedicated to Frederick William III., King of Prussia, and Louise, Queen of Prussia, are the nine following amongst many other cases:—

"*England.*—Lady Russell, wife of a colonel in the army, was considered dead, and only through the tender affection of her husband was she saved from living burial. He would not allow her to be taken away until decomposition would absolutely force him to do so. After seven days, however, in the evening, when the bells were ringing, the faithful husband had the triumph to see her eyes open and her return to full consciousness."

"*Halle, Germany.*—Medical Professor Junker, in Halle, a very humane man, had a corpse of a suicide—by hanging—delivered for dissection at his college. He was placed on a table in the dissecting room, and covered with a cloth. About midnight,

while the professor was sitting at his writing-table in an adjoining room, he heard a great noise in the dissecting room, and, fearing that cats were gnawing at the corpses, he went out, and saw the cloth in a disturbed condition, and on lifting it up found the corpse missing. As all the doors and windows were closed, he searched the room, and found the missing one crouching in a corner, trembling with cold, in the terror of death. He besought the professor for mercy, help, and means for escape, as he was a deserter from the army, and he would be severely punished if caught. After consideration, the kind professor clothed him, and took him out of town at night as his own servant—passing the guards—pretending to be on a professional visit, and set him free in the country. Years afterwards he met the same man in Hamburg as a prosperous merchant."

"*Leipsic.*—The wife of the publisher, Mathäus Hornisch, died, and, according to the custom of the times, the coffin was opened before being put into the ground. The grave-digger noticed golden rings on her fingers, and in the following night went to the grave to steal them—which he found was not easy to do—when suddenly she drew back her arm. The robber ran away frightened, leaving his lantern at the grave. The woman recovered, but could not make out where she was, and cried for help. No one heard her; so she got out of the grave, took the lantern, and went to her home. Knocking at the door, the servant called to know who it was. She replied: 'Your mistress. Open the door; I am cold, and freezing to death.' The master was called, and happily she was restored to her home again, where she lived for several years longer."

"*Pavese, Italy, 1787.*—A clergyman was buried, and noises were heard in his grave afterwards. Upon opening the grave and the coffin, the man was found alive, and violently trembling with fright."

"*Paris, 1787.*—A carpenter was buried; noises were heard proceeding from his grave, and upon opening it he was found to be breathing. He was taken to his home, where he recovered."

"*Stadamhof, 1785.*—A young, healthy girl, on the way to a wedding, had an apoplectic stroke, as it was thought, and fell as if dead. The following day she was buried. The grave-digger, who was occupied near her grave that night, heard noises in it, and being superstitious ran home in fright. The following morning he returned to finish a grave he was digging, and heard the whining again from the girl's grave. He called for help, the grave was opened, when they found the girl turned over, her face scratched and bloody, her fingers bitten, and her mouth full of blood. She was dead, with evidences of most dreadful suffering."

"*France.*—Madame Lacour died after a long sickness, and was buried in a vault of a church, with all her jewels on. Her maid and the sexton opened the coffin the following night to steal the jewellery, when some hot wax from the candle they were using fell on the woman's face and woke her up. The robbers fled in fright, and the woman went back to her home. She lived many years afterwards, and had a son who became a priest, who in turn—inheriting his mother's nature—underwent a fate similar to her own."

"*Lyons, France.*—The wife of a merchant died. Two days after her seeming death, and just before the time set for her burial, her husband, who, it seems, had some doubts as to her death, had her taken from the coffin, and had a scarifier used in cupping applied in twenty-five places without bringing any blood, but the twenty-sixth application brought her to consciousness with a scream, and she recovered completely."

"*Cadillac.*—A woman had been buried in the morning. In the following morning whining was heard in her grave. It was opened, and the woman was found still alive, but she had mutilated half of her right arm and the whole hand. She was finally restored."

The *Spectator*, October 11, 1895, publishes particulars of a case of recovery, after three days' interment, in Ireland. See pp. 99, 100 in this volume.

Köppen's investigations led him to observe that "human life may appear to come to a stop, and no one can say it will not go on again, if time enough is allowed for it to do so. This even the most learned in medicine cannot explain away or deny; and the greatest precaution should be taken before death is declared to exist."

CHAPTER XV.

THE TREATMENT OF THE DEAD.

Customs of Savages.

The following extracts from French, English, and American authorities, who have made the subject of premature burial one of patient research, show how the dead, or apparently dead, were treated in their respective countries at the time they wrote, and when no reforms had been instituted. Buffon, who wrote more than a century ago, said:—"Life often very nearly resembles death. Neither ten, nor twenty, nor twenty-four hours are sufficient to distinguish real from apparent death. There are instances of persons who have been alive in the grave at the end of the second and even the third day. Why, then, suffer to be interred so soon those whose lives we ardently wish to prolong? Most savages pay more attention to deceased friends and relatives, and regard as the first duty what is but a ceremony with us. Savages respect their dead, clothe them, speak to them, recite their exploits, extol their virtues; while we, who pique ourselves on our feelings, do not show common humanity; we forsake and fly from our dead. We have neither courage to look upon or speak to them; we avoid every place which can recall their memory."

Danger of Hasty Conclusions.

In his "History of the Modes of Interment among Different Nations," pp. 191-193, Mr. G. A. Walker,

surgeon, quotes the following observations, as deserving consideration, on the subject of premature interment:—"On many occasions, in all places, too much precipitation attends this last office; or, if not precipitation, a neglect of due precautions in regard to the body in general; indeed, the most improper treatment that can be imagined is adopted, and many a person is made to descend into the grave before he has sighed his last breath. Ancient and modern authors leave us no doubt respecting the dangers or misconduct of such precipitation. It must appear astonishing that the attention of mankind has been, after all, so little aroused by an idea the most terrible that can be conceived on this side eternity. According to present usage, as soon as the semblance of death appears, the chamber of the sick is deserted by friends, relatives, and physicians; and the apparently dead, though frequently living, body is committed to the management of an ignorant and unfeeling nurse, whose care extends no further than laying the limbs straight, and securing her accustomed perquisites. The bedclothes are immediately removed, and the body is exposed to the air. This, when cold, must extinguish any spark of life that may remain, and which, by a different treatment, might have been kindled into flame; or it may only continue to repress it, and the unhappy person afterwards revive, amidst the horrors of the tomb.

"The difference between the end of a weak life and the commencement of death is so small, and the uncertainty of the signs of the latter is so well established, that we can scarcely suppose undertakers capable of distinguishing an apparent from a real death. Animals

which sleep in the winter show no signs of life. In this case, circulation is only suspended; but, were it annihilated, the vital spark does not so easily lose its action as the fluids of the body, and the principle of life, which long survives the appearance of death, may reanimate a body in which the action of all the organs seems to be at an end. But how difficult it is to determine whether this principle may not be revived! . . . Coldness, heaviness of the body, a leaden, livid colour, with a yellowness in the visage, are all very uncertain signs. M. Zimmermann observed them all upon the body of a criminal, who fainted through dread of that punishment which he had merited. He was shaken, dragged about, and turned in the same manner as dead bodies are, without the least signs of resistance, and yet, at the end of twenty-four hours, he was recalled to life by means of the volatile alkali." Mr. Walker's history was written nearly sixty years ago, but the custom he deprecated still continues.

Custom in the United States.

Dr. Moore Russell Fletcher, in his "Suspended Animation and Restoration," Boston, 1890, p. 19, speaking of the treatment of the dead in the United States, says:—"It is doubtful whether modern civilization has much advanced the rites of burial, or the means of preventing interment before positive death. The practice now is, as soon as apparent death takes place, to begin at once preparing the body for burial; the relatives and physician desert the room, pack it in ice or open the windows, thus banishing any possible chance of reviving or resuscitating any spark of vitality

which may exist. No examination is ever made by the physician or the friends to see if there are even the faintest signs of life present. Under such circumstances, and with no attempts made at discovering whether any signs of life were still present (but a hasty burial instead), it is not strange that cases of premature interment frequently occur."

The Fallacy of "Signs."

The Rev. Walter Whiter, in his "Dissertation on the Disorder of Death," 1819, p. 328, sensibly observes:—"The signs marked on the dying and the dead are fallacious. The dying man may be the sinking man, exhausted by his malady, or perhaps exhausting his malady, and fainting under the conflict. Exert all the arts which you possess, and which have been found not only able to resuscitate and restore the dying, but even the dead; rouse him from this perilous condition and suffer him not, by your supineness and neglect to pass into a state of putrefactive death." And in p. 363:—"If the humane societies had applied the same methods in various cases of natural death which they have adopted in the case of drowning, and if they had obtained a similar success in the cultivation of their art, the gloom of the bed of death would be brightened with cheering prospects, and would have become the bed of restoration and the scene of hope."

Suggested New Vocation.

In this connection we may remark that no profession is more overcrowded at the present time than that of medicine, particularly in the United Kingdom, the

English Colonies, and the United States. Hundreds of young men graduate from medical colleges every year, vainly seeking openings for a practice; and some, for the purpose of gaining a livelihood, resort to expedients which the *Lancet* denounces as undignified, unprofessional, and disgraceful. Then, again, the number of nurses and of those qualifying for this honourable vocation is already in excess of the demand, and nursing institutions, under the keen competition to which they are subjected, are reducing their charges. Now, the care and treatment of the supposed dead is an honourable vocation, offering a wide field for the instructed physician and the tender and sympathetic nurse, and if the appliances for resuscitation were always at hand, as they should be, in every hospital, town hall, mortuary, police station, and in all large hotels and churches, many lives, now subjected to the risks of premature burial, would be saved. While in London there are two or more houses or retreats for the dying, there is no place for the apparently dead but a shunned and neglected coffin. The time is not far distant when the present mode of treating the dead and the apparently dead—a practice born of superstition and fear, by which many are consigned to premature graves—will be catalogued amongst the barbarisms of the nineteenth century.

CHAPTER XVI.

NUMBER OF CASES OF PREMATURE BURIAL.

CONCLUSIONS FROM KNOWN FACTS.

THOSE interested in the movement, if we are right in designating the widespread feeling of discontent by this name, are occasionally asked if the cases of premature burial are numerous, and what estimates, if any, have been made of them. We have no means of answering these queries. We do not even know the percentage of people who are subject to trance, catalepsy, shocks, stroke of lightning, syncope, exhausting lethargy, excessive opium-eating, or other diseases and conditions which produce the various death-counterfeits. Personal inquiries over a considerable portion of Europe, America, and the East prove that such cases are by no means of infrequent occurrence, and this is the deliberate conclusion of nearly all the authorities cited in this volume.

Dr. Chambers wrote in 1787—"Every age and country affords instances of surprising recoveries, after lying long for dead. From the number of those preserved by lucky accidents, we may conclude a far greater number might have been preserved by timely pains and skill."—Cited in "Mort Apparente et Mort Réelle," p. 17.

In his introduction to the work above cited, "Information Relative to Persons who have been Buried Alive," by Heinrich Friedrich Köppen, Halle, 1799, the

author says:—"General Staff Medical Officer, D. O. in D., states that, in his opinion, one-third of mankind are buried alive." This estimate is very obviously exaggerated, although many trustworthy experiences prove that a certain number of those who die have returned to consciousness in their graves. A great many are buried alive from ignorance of their relatives, who mistake coldness of the body, stoppage of the pulse and breathing, the colour of death, spots of discolouration, a certain odour, and stiffness of the limbs—which are only deceptive signs, and not the signs of real death.

Wisdom of Delay in Burial.

The very respectable Dr. Hufeland says:—"One cannot be too careful in deciding as to life or death, therefore I always advise a delay of the funeral as long as possible, so as to make all certain as to death. No wonder those who are buried alive, and who undergo indescribable torture, condemn those who have been dearest to them in life. They will have to undergo slow suffocation, in furious despair, while scratching their flesh to pieces, biting their tongues, and smashing their heads against the narrow houses that confine them, and calling to their best friends, and cursing them as murderers. The dead should not be buried before the fourth day; we even have examples that prove that. Eight days or a fortnight is too soon—as there have been revivals as late as that. I say everyone should respect those who only seem to be dead. They should be treated gently, and kept in a warm bed for thirty-six hours."

Mr. John Snart, in his "Thesaurus," pp. 27, 28, London, 1817, says:—"The number of dreadful catastrophes, arising from premature interment, . . . that have been *discovered* only, or have transpired to man, *above ground*, both in ancient and modern times, conveys to every reflecting mind the fearful thought that they are but a *sample* (per synecdochen) out of such an incalculable host, perhaps one in a thousand."

Various Statistical Estimates.

Professor Froriép, quoted in Kempner's volume, says that—"In 1829, arrangements were made at the cemetery, New York, so as to bury the corpses in such manner as not to prevent them communicating with the outside world, in case any should have awakened to life; and among twelve hundred persons buried six came to life again." In Holland, the same author states, of a thousand cases investigated, five came to life before burial, or at the grave. The Rev. J. G. Ouseley, in his pamphlet on "Earth to Earth Burial," London, 1895, estimates "that two thousand seven hundred persons at least, in England and Wales, are yearly consigned to a living death, the most horrible conceivable."

The Rev. Walter Whiter, in the "Disorder of Death," 1819, p. 362, calls attention to one of the reports (of Humane Societies), where the following passage occurs: "Monsieur Thieurey, Doctor Regent of the Faculty of Paris, is of opinion that one-third, or perhaps half, of those who die in their beds are not actually dead when they are buried. He does not mean to say that so great a number would be restored to life. In the

intermediate state, which reaches from the instant of apparent death to that of total extinction of life, the body is not insensible to the treatment it receives, though unable to give any signs of sensibility."

Maximilian Misson, in his "Voyage Through Italy," vol. i., letter 5, tells us "that the number of persons who have been interred as dead when they were really alive is very great, in comparison with those who have been, happily, rescued from their graves." He then proceeds to substantiate his statement by the recital of cases.

Dr. Léonce Lénormand, in his able treatise, "Des Inhumations Précipitées," has given his deliberate opinion that a thousandth part of the human race have been, and are, for want of knowledge, annually buried alive.

M. Le Guern, in his "Danger des Inhumations Précipitées," which has passed through several editions, declares that he has personally met with forty-six cases of premature burial in twelve years. He devoted thirty years to the study of the facts, and collected a list of two thousand three hundred and thirteen cases from various sources. He estimates the number of premature burials in France at two per thousand.

On February 27, 1866, the petition of M. Cornot was presented to the French Senate by M. de la Gueronnière, stating that a comparatively large number of persons are annually buried alive. This statement he supported by statistics. The author has tried to procure a copy of this petition, but these documents are not published by the State department.

A Medical Man's Caution.

The following appears in the *Lancet* June 14, 1884, p. 1104:—

"Sir,—That this is an incident that does happen, and frequently has happened, has for some years past been my firm conviction; and during epidemics, particularly in the East, its possible contingency has frequently caused me much anxiety; and when the burial has, for sanitary reasons, had to be very hurried, I always made it a rule to withhold my certificate, unless I had personally inspected the body and assured myself of the fact of death.

"The reason and necessity for extreme caution in such matters were impressed vividly upon me some years ago, when visiting the crypt of the cathedral at Bordeaux, where two bodies were shown, to whom, I think it obvious, this most terrible of all occurrences must have happened; and I am unable to attribute the position in which they were found in their coffins, and the look of horror which their faces still displayed, to any action of *rigor mortis* or any other *post-mortem* change, but simply and solely to their having awakened to a full appreciation of their most awful position. In the case of one of these bodies, which was found lying on its side, the legs were drawn up nearly to a level with the abdomen, and the arms were in such a position as to convey the impression that both they and the legs had been used in a desperate, but futile, attempt to push out the side of the coffin; whilst the look of horror remaining on the face was simply indescribable. In the other case, the body was found

lying on its face, the arms extended above the head, as if attempting to push out the top of the coffin. In the year 1870 these two bodies were still on view; and the attendants used to dwell at some length upon the horrors of being interred alive. It appears that some years prior to 1870, in making excavations in a churchyard in the immediate vicinity of the cathedral, the workmen came upon a belt of ground that apparently was impregnated with some antiseptic material, as all the bodies within this belt, to the number of about two hundred, were found to be almost as perfect as when they were buried; of these a selection appears to have been made; and at the time I mention about thirty or forty were exhibited, propped up on iron frames, in the crypt of the cathedral. The impression left on my mind at the time was, that if out of two hundred bodies so discovered there could be two in which, to say the least, there is a strong probability of live interment, this awful possibility was a thing that should receive more attention than is generally devoted to it.—I am, sir, your obedient servant,

"H. S.

"Bayswater, June 10, 1884."

Conditions in France.

Protests against the present state of the law in France are very frequent. M. Gaubert in "Les Chambres Mortuaires d'Attente," page 80, says: "During the monarchy of July petitions have not ceased to come in from all parts of France to the Chamber of Deputies." For a great number of years, said the Deputy Varin,

in the sitting of April 10, 1847, every year petitions having the same object (the prevention of premature burial) are presented to the Chambers and referred to the Ministry. What has been done, however? Nothing! Again M. Gaubert, on p. 88, referring to resolutions of the General Councils of the Departments, observes: "That under the movement of protest, which we are examining and find particularly serious, is shown the widespread character which it assumes. It is, indeed, from all parts of France, and under every form, that the sad complaints of the public (for the prevention of premature burial) arrive at the office of the Minister of the Interior. Those protests adopted by the General Councils (of Departments) were not the less numerous nor the less conspicuous in important places. Many of those who take the trouble to petition or draw up resolutions have been prompted to action by melancholy experience of such catastrophes in their own families."

M. Gaubert, in "Les Chambres Mortuaires d'Attente" (Paris, 1895), pp. 193-195, says that in France there are in round numbers thirty-six thousand Communes, and it is beyond doubt that in every one of these will be found cases of premature burial. Communes with a population of eight hundred have even several. Dr. Pineau has recorded twelve in the single Commune of Fontenay-le-Comte in Poitou. In the large towns, especially in those which have great hospitals, the proportion is more considerable. In Paris, Dr. Rousseau, verificateur of the dead, in 1853 wrote: "Le médecin n'est jamais appelé que pour constater la mort apparente." M. Gaubert declares that he would not

be far from the truth in estimating the number of victims to apparent death at eight thousand a year, and asks if France be so rich in population as to be able to pay such an enormous tribute. Dr. Josat, lauréat de l'Institut, declares that a considerable number of people refuse to visit France through fear that they might be overtaken by apparent death and precipitately buried alive.

In England, India, and the Continent.

The *Undertakers' Journal*, July 22, 1889, the editor of which has exceptional opportunities of knowing the true facts, observes: "It has been proved beyond all contradiction that there are more burials alive than is generally supposed. Stories of these cases are numerous. Five cases are reported on p. 85 of this same issue, one the wife of a well-known tradesman at St. Leonards, medically pronounced dead, but who revived before it was too late. Many undertakers could describe similar experiences."

Dr. Roger S. Chew, of Calcutta, in reply to the author's inquiries while in India in the early part of the year 1896, says: "There are hundreds of instances on record where from some cause, as syncope, shock, chloroform, hysteria, or other condition not clearly understood, the powers of life assumed a static condition in which oxidation was completely arrested, carbonification was held in abeyance, and nitrification maintained at positive rest, with the consequence that the vital functions have passed into a condition of hibernation or apparent death so closely simulating real or absolute death as to render differential diagnosis

an almost impossibility, and to lead to the interment or cremation while yet alive of a body apparently dead."

Dr. Franz Hartmann, of Hallein, Austria, whose book, "Buried Alive," is now being translated into French, has collected seven hundred cases of premature burial and narrow escapes, several of which have occurred in his own neighbourhood, and is of opinion that the actual danger to every member of the human family is of serious proportions, and that the subject should not be trifled with. He is a strong advocate for cremation as offering the easiest practical method of prevention.

It will have been noticed that whenever the subject of premature burial has been introduced in an influential journal published in England, the United States, or the Continent, one contribution follows another in quick succession by persons furnishing particulars of cases of trance, catalepsy, and of narrow escapes from living burial. The Paris *Figaro* opened its columns some years ago for this subject, and in fifteen days received four hundred letters from all parts of France. When we consider that nearly all the reported cases of resuscitation have come about spontaneously and independently of human intervention, it becomes evident, owing to our ignorance and apathy, that cases of premature burial are far from infrequent, and our churchyards and cemeteries, like those examined by Dr. Thouret in Paris, are probably the silent witnesses of unnumbered unspeakable silent tragedies. Immediate legislation is called for to remedy a national evil, and to remove the feeling of disquietude which extensively prevails.

In Ireland.

As an illustration of hasty burial in Ireland, the following report of a meeting of the Roscrea Guardians is taken from the *King's County Chronicle*, Parsonstown, Ireland, August 27, 1896.

"Thursday—Present: T. Jackson, D.V.C., in the chair; L. S. Maher, J. P.; M. Bergin, J. P.; W. J. Menton, W. Jackson, P. Roe.

"Mr. Roe—You made short work of Jack Ryan at the chapel of Knock. He was alive and speaking at three o'clock, and buried at six the same day. The Master stated that, it being supposed the man died from an infectious disease, no person would assist in coffining him till a message came asking that he (the Master) would send out some of the male inmates, and he sent two and had him coffined and interred. Mr. Roe—The man was not cold when he was buried. Master—The nun tells me the man had an ounce of tobacco clasped tightly in his hands. Chairman—What disease had he? Clerk—Pneumonia was certified by the doctor. The people believed that he had died from an infectious disease, and insisted he should be buried immediately. Mr. Roe—It was certainly short work—a man dying at three o'clock and buried at six. Master—This man was married to a woman who was a nurse in the old Donoughmore workhouse, and they lived at Drumar, Knock."[1]

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[1] With reference to the burial customs in Ireland, the *King's County Chronicle*, Parsonstown, September 17, 1896, says:—"Young children are buried the day after death, but adults are waked for two, and sometimes three, nights.

CHAPTER XVII.

EMBALMING AND DISSECTIONS.

THE work of disintegration commences directly death of the body takes place, and, according to most important researches by M. Mégnin in "La Faune des Cadavres," is the result of the operations of successive colonies of insects—"the labourers of death," some eight different species in all, which pursue their offices according to the particular stage of decomposition for which their services are required.

This valuable work of disintegration is arrested by the process of embalming, which consists in the injection of various toxic substances; and were this process universal it would mean the rather inadvisable preservation of immense numbers of human bodies, and, at the same time, it would occasionally lead to the defeat of justice where death by poisoning had occurred.

There are those, however, who claim advantages for the processes of embalming and dissection.

THEIR CLAIMS.

An intelligent and observing correspondent writes to the author that "under the prevailing custom of embalming in vogue in the United States, it is almost impossible to have a living burial, as the injection of the fluids used in the operation would prevent revival and make death certain. Of course, the class denominated 'poor folks,' who cannot afford this security,

have to take their chances with the mysteries of trance and other forms of apparent death, as well as with ignorance, indifference, and unseemly haste, that seem to encompass a man at a time when he is in need of the most considerate care."

Embalming is no doubt preferable, as was thought by the late Lady Burton, to the risks, prevailing in almost all countries, of burial before careful medical examination, for the reason that it is better to be killed outright by the embalmer's poisonous injections, or even to come to life under the scalpel of the anatomist, than to recover underground. A leading New York investigator has openly declared his belief that a considerable number of human beings (supposed by their relatives to be dead, but who are really only in a state of death-trance) are annually killed in America by the embalming process.

The late Miss Frances Power Cobbe was so impressed by the fear of being buried alive, for reasons which are recited on page 126, that she preferred being killed outright by the surgeon's knife, rather than run the risk she so much dreaded. Consequently, her will contained the following solemn injunction to her medical adviser, which was duly carried out by the editor of this work: "To perform on my body the operation of completely and thoroughly severing the arteries of the neck and windpipe, nearly severing the head altogether, so as to make any revival in the grave absolutely impossible. If this operation be not performed, and its completion witnessed by one or other of my executors, and testified by the same, I pronounce all bequests in this will to be null and void."

The Risks of Embalming.

Dr. P. J. Gibbons, M.A., says:—"In my mind there is no doubt that bodies in which life is not extinct are embalmed."

The Select Committee of the House of Commons appointed in 1893 to enquire into the subject of Death-Certification, suggest in their report that in all cases where it is desired to embalm a dead body an authorisation should be obtained from the Home Secretary. This is probably intended to prevent concealing cases of death by poisoning. The Select Committee might very well have extended its recommendations to the need of verifying the death before the embalmer was allowed to exercise his art on the subject. Legislation in the United States, where embalming is extensively practised among well-to-do people, is a matter of urgent necessity. The author is aware of only one town where the city ordinance enforces such verification before permitting burial.

In the second edition of Dr. Curry's "Observations on Apparent Death," 1815, p. 105, the case is cited of William, Earl of Pembroke, who died April 10, 1630. When the body was opened in order to be embalmed he was observed, immediately after the incision was made, to lift up his hand.

F. Kempner, in "Denkschrift," p. 6, says:—

"Owing to some great mental excitement, the Cardinal Spinosa fell into a state of apparent death. He was declared to be dead by his physicians, and they proceeded to open his chest for the purpose of embalming his body. When the lungs were laid

open, the heart began to beat again; the Cardinal returned to consciousness, and was just able to grasp the knife of the surgeon, when he fell back and died in reality."[1]

The *Journal de Rouen*, Aug. 5, 1837, relates the following:—

"Cardinal Somaglia was seized with a severe illness, from extreme grief; he fell into a state of syncope, which lasted so long that the persons around him thought him dead. Preparations were instantly made to embalm his body, before the putrefactive process should commence, in order that he might be placed in a leaden coffin, in the family vault. The operator had scarcely penetrated into his chest, when the heart was seen to beat. The unfortunate patient, who was returning to his senses at that moment, had still sufficient strength to push away the knife of the surgeon, but too late, for the lung had been mortally wounded, and the patient died in a most lamentable manner."

Dr. Hartmann in "Premature Burial," p. 80, says:—

"The celebrated actress Mdlle. Rachel died at Paris, on 4th January, 1858. After the process of embalming her body had already begun, she awoke from her trance, but died ten hours afterwards owing to the injuries that had been inflicted upon her."

The *Celestial City*, New York, June 15, 1889, records the thrilling experience of Mrs. Eleanor Fletcher Bishop, the mother of the celebrated mind-reader.

"Anent the unseemly haste exercised by the doctors

[1] Quoted by Dr. Franz Hartmann in "Premature Burial."

who made the autopsy on her son, the old lady stated what terrible perils she at one time barely escaped. 'I am subject to the same cataleptic trances in which my boy often fell,' said Mrs. Bishop. 'One can see and hear everything, but speech and movement are paralyzed. It is horrible. For six days, some years ago, I was in a trance, and saw arrangements being made for my funeral. Only my brother's determined resistance prevented them from embalming me, and I lay there and heard it all. On the seventh day I came to myself, but the agony I endured left its mark for ever.'"

The Risks of Dissection.

Mr. M. Cooper, surgeon, in his admirable little volume "The Uncertainty of the Signs of Death," London, 1746, p. 196, observes that "those who are dissected run no risk of being interred alive. The operation is an infallible means to secure them from so terrible a fate. This is one advantage which persons dissected have over those who are, without any further ceremony, shut up in their coffins."

The following from Ogston's "Medical Jurisprudence," p. 370, is a case in point (quoted by the *Lancet*):—"In October, 1840, a servant girl, who had retired to bed apparently in perfect health, was found the following morning, as it appeared, dead. A surgeon who was called pronounced her to have been dead for some hours. A coroner's inquest was summoned for four o'clock, and the reporter and the surgeon who had been called in to the girl were ordered to inspect the body previous to its sitting. On proceeding to the house for this purpose at two o'clock, the inspectors found the girl

lying in bed in an easy posture, her face pallid, but placid and composed, as if she were in a deep sleep, while the heat of the body had not diminished. A vein was opened by them, and various stimuli applied, but without affording any sign of resuscitation. After two hours of hesitation and delay, a message being brought that the jury were waiting for their evidence, they were forced to proceed to the inspection. In moving the body for this purpose, the warmth and pliancy of the limbs were such as to give the examiners the idea that they had to deal with a living subject! The internal cavities, as they proceeded, were found so warm that a very copious steam issued from them on exposure. All the viscera were in a healthy state, and nothing was detected which could throw the smallest light on the cause of this person's death." Tidy ("Legal Medicine") part i., p. 140, remarks thereon—"A mistake had no doubt been made in this case, as its warmth was not caused by decomposition."

In the "Cyclopædia of Practical Medicine," edited by Sir John Forbes, M.D., and others, 1847, vol. i., pp. 548-9, we find the following:—"Nothing is more certain than death; nothing is more uncertain at times than its reality; and numerous instances are recorded of persons prematurely buried, or actually at the verge of the grave, before it was discovered that life still remained; and even of some who were resuscitated by the knife of the anatomist. . . . Bruhier, a celebrated French physician, who wrote on the uncertainties of the signs of death in 1742, relates an instance of a young woman upon whose supposed corpse an anatomical examination was about to be made when the first

stroke of the scalpel revealed the truth; she recovered, and lived many years afterwards. The case related by Philippe Pue is somewhat similar. He proceeded to perform the Cæsarean section upon a woman who had to all appearance died undelivered, when the first incision betrayed the awful fallacy under which he acted. . . . 'There is scarcely a dissecting-room that has not some traditional story handed down of subjects restored to life after being deposited within its walls. Many of these are mere inventions to catch the ever greedy ear of curiosity; but some of them are, we fear, too well founded to admit of much doubt. To this class belongs the circumstance related by Louis, the celebrated French writer on medical jurisprudence. A patient who was supposed to have died in the Hospital Salpétière was removed to his dissecting-room. Next morning Louis was informed that moans had been heard in the theatre; and on proceeding thither he found to his horror that the supposed corpse had revived during the night, and had actually died in the struggle to disengage herself from the winding sheet in which she was enveloped. This was evident from the distorted attitude in which the body was found. Allowing for much of the fiction with which such a subject must ever be mixed, there is still sufficient evidence to warrant a diligent examination of the means of discriminating between real and apparent death; indeed, the horror with which we contemplate a mistake of the living for the dead should excite us to the pursuit of knowledge by which an event so repugnant to our feelings may be avoided. . . . If life depends upon the presence of a force or power continually opposed to the action of physical and chemical

laws, real death will be the loss of this force, and the abandonment of organised bodies to these agents; while apparent death will be only the suspension of the exercise of life, caused by some derangement of the functions which serve as instruments of vital action. This suspension must have been lost for a considerable time, if we may judge by the cases collected by credible authors, to some of which we have alluded, and by the numerous instances of drowned persons restored to life after long submersion. From this definition of life and death, it would follow that putrefaction is the only evidence of real death."

Mistakes of Eminent Anatomists.

The historical instance of Vesalius has been questioned, but the facts appear to be unrefuted.

"Andreas Vesalius, successively first physician to Charles the Fifth and his son Philip the Second of Spain, being persuaded that a certain Spanish gentleman, whom he had under management, was dead, asked liberty of his friends to lay open his body. His request being granted, he no sooner plunged his dissecting-knife in the body than he observed signs of life in it, since, upon opening the breast, he saw the heart palpitating. The friends of the deceased, horrified by the accident, pursued Vesalius as a murderer; and the judges inclined that he should suffer as such. By the entreaties of the King of Spain, he was rescued from the threatening danger, on condition that he would expiate his crime by undertaking a voyage to the Holy Land."

The account of an accident that befell another anatomist is taken from Terilli.

"A lady of distinction in Spain, being seized with an hysteric suffocation so violent that she was thought irretrievably dead, her friends employed a celebrated anatomist to lay open her body to discover the cause of her death. Upon the second stroke of the knife she was roused from her disorder, and exhibited evident signs of life by her lamentable shrieks extorted by the fatal instrument. This melancholy spectacle struck the bystanders with so much consternation and horror that the anatomist, now no less condemned and abhorred than before applauded and extolled, was forthwith obliged to quit not only the town but also the province in which the guiltless tragedy was acted. But though he quitted the now disagreeable scene of the accident, a groundless remorse preyed upon his soul, till at last a fatal melancholy put an end to his life."

Le Guern, in "Du Danger des Inhumations Précipitées," chap. iv., p. 24, relates that "The Abbé Prévost was found in the forest of Chantilly perfectly insensible. They thought him dead. A surgeon proceeded to make a *post-mortem;* but hardly had he put the scalpel in the body of the unfortunate victim before the supposed corpse uttered a cry, and the surgeon realised the mistake he had made. Prévost only became conscious to feel aware of the horror of the death by which he perished."

Dr. Franz Hartmann, in his "Premature Burial," p. 80, has the following:—

"In May, 1864, a man died very suddenly at an hospital in the State of New York, and as the doctors could not explain the cause of the death they resolved upon a *post-mortem* examination, but when they made

the first cut with the knife, the supposed dead man jumped up and grasped the doctor's throat. The doctor was terrified, and died of apoplexy on the spot, but the 'dead' man recovered fully."

Brigade-Surgeon W. Curran in his eighth paper, entitled "Buried Alive," relates the following:—"At the Medical College at Calcutta, on the 1st of February, 1861," so writes my friend as above, "the body of a Hindu male, about twenty-five years of age, was brought from the police hospital for dissection. . . . It was brought to the dissecting-room about six a.m., and the arteries were injected with arsenical solution about seven. At eleven the prosector opened the thorax and abdomen for the purpose of dissecting the sympathetic nerve. At noon Mr. Macnamara distinctly saw the heart beating; there was a regular rhythmical vermicular action of the right auricle and ventricle. The pericardium was open, the heart being freely exposed, and lying to the left in its natural position. The heart's action, although regular, was very weak and slow. The left auricle was also in action, but the left ventricle was contracted and rigid, and apparently motionless. These spontaneous contractions continued till about 12.45 p.m., and, further, the right side of this organ contracted on the application of a stimulus, such as the point of a scalpel, etc., for a quarter of an hour longer."—*Health*, May 21, 1886, p. 121.

Bruhier, in his work, "Dissertation sur l'Incertitude de la Mort et l'Abus des Enterrements," records a number of cases of the supposed dead, who, after burial, were revived at the dissecting table, together with fifty-three that awoke in their coffins before being buried,

fifty-two persons actually buried alive, and seventy-two other cases of apparent death. This was at a time when body-snatching was in vogue, and it is a curious comment on our civilization to be compelled to admit that a subject of trance or catalepsy during the eighteenth or the early part of the last century had a better chance of escape from so terrible a fate than now, when the vocation of the resurrection-man has become obsolete.

CHAPTER XVIII.

DEATH-CERTIFICATION.

The State of the Law.

At the conclusion of a series of inquests at Stepney, on September 5, 1903, Mr. Wynne E. Baxter, the coroner, mentioned an extraordinary case which bears immediately upon the subject of death-certification.

It appears that a little child had been twice attended to in the casualty department of the East London Children's Hospital for some trifling disorder. A few days after the last visit to that institution, the mother went to pick the child up, and found it apparently dead. Under this apprehension she went to the hospital and endeavoured to obtain a death-certificate, but on her return home she found the child alive. The casualty officer at the hospital, who had found nothing sufficiently wrong with the child to account for the sudden death, refused a certificate, and reported the supposed death to the coroner. The assistant officer of the coroner then proceeded to arrange the preliminaries for an inquest, but on calling at the parent's house found the child alive.

The recital of this case was the cause of considerable public criticism, and several of the daily newspapers dwelt strongly upon the alleged lax and perfunctory manner of granting death certificates in hospitals. The *British Medical Journal*, of September

12, commenting upon this criticism, says: — "To impose on hospital residents the duty of viewing the corpse in every case before granting a death certificate would be to disorganise totally every department of the hospital on many days of the week. Such a duty, moreover, is not imposed on private practitioners, who have many more facilities for visiting their patients' residences. To expect the visiting out-patient staff, too, to view the corpse before granting a death-certificate would be to inflict such a burden that no gentlemen would be found willing to take such posts."

In the present case the casualty officer had found nothing sufficiently wrong to account for death, "yet," continues the *British Medical Journal*, "had the child been seriously ill on his seeing it, and the death was reported to him by the nearest relative, the mother, he would have had no option allowed him by the law but to grant the certificate."

This sums up very fairly the present state of the law as to the granting of death-certificates. It is the regular practice of medical men, who have been in attendance upon patients seriously ill, to accept the statement of the friends that the patient has died, and to give a certificate at once without any inspection of the body. According to the legal form of death-certificate, "printed by the authority of the Registrar-General," he is under no obligation to satisfy himself that the patient is dead; indeed, a space is left for him to write the words "as I am informed," should he not be satisfied about it. And, whilst elaborate instructions are given as to the way in

which the death-certificates are to be filled up, no caution or instruction is given as to the absolute signs of death, or what steps should be taken in doubtful cases.

An illustration of this lack of investigation before granting a death-certificate occurred a few months prior to the case cited above, namely, in July, 1903, at Glamorgan Assizes, when a married woman was charged with unlawfully obtaining by false pretences the sum of £3 10s. from the Royal London Friendly Society, in respect of the alleged death of her child, at Swansea, on 17th June. The Grand Jury made some very pertinent observations regarding the conduct of the doctor in granting a certificate of death without actual knowledge; and Mr. Justice Channell, before passing sentence, offered the doctor an opportunity of giving an explanation of the course he had pursued. The doctor claimed "the usual practice" as his excuse, and, after a long colloquy, the judge remarked: "I am quite sure, if this custom is universal, it is nevertheless wrong."

Parliamentary Inquiry.

A Select Committee of the House of Commons, under the chairmanship of Sir Walter Foster, M.D., was appointed on March 27, 1893, to inquire into the subject of death-certification in the United Kingdom. Fourteen sittings were held, and thirty-two witnesses examined. All the witnesses practically agreed as to the serious defects in the law, and a number of recommendations were made. It was shown that in about four per cent. of the cases the cause of death

was ill defined and unspecified, many practitioners having forms specially printed for their own use, in which all mention of medical attendance was omitted, the object being to enable the doctor to give certificates in cases which he has never attended. Numerous deaths attended by unqualified practitioners were certified by qualified practitioners who had probably never seen the cases; and deaths were certified by medical practitioners who had not seen the patient for weeks or months prior to death, and who knew only by hearsay of the deaths having occurred. Deaths were also certified in which the true cause was suppressed in deference to the feelings of survivors; these last in particular were reported to be very numerous.

In Q. 2552-83 remarkable evidence was produced as to the reckless mode of death-certification. One medical witness testified that he saw a certificate of death, signed by a registered medical practitioner, giving both the fact and the cause of death of a man who was actually alive at the time, and who lived four days afterwards, with facts of even a more startling character described as "murder made easy." It was pointed out that fraud and irregularity in giving false declarations of death are by no means infrequent. Various other matters were treated, and the following are some of their recommendations:—

1. That in no case should a death be registered without the production of a certificate of the cause of death by a registered medical practitioner, or by a coroner after inquest, or, in Scotland, by a procurator-fiscal.

2. That in each sanitary district a registered medical practitioner should be appointed as public medical certifier of the cause of

death in cases in which a certificate from a medical practitioner in attendance was not forthcoming.

3. That a medical practitioner in attendance should be required, before giving a certificate of death, to personally inspect the body, but if, on the ground of distance, or for other sufficient reason, he is unable to make this inspection himself, he should obtain and attach to the certificate of the cause of death a certificate signed by two persons, neighbours, verifying the fact of death.

4. That medical practitioners be required to send certificates of death direct to the registrar instead of handing them to the relatives of the deceased.

5. That a form of certificate of death should be prescribed, and that medical practitioners should be required to use such form.

Sir Henry Thompson's Criticism.

As a commentary upon the above recommendations, the *Times* of May 23, 1896, publishes the following report:—

"At the special meeting of the Metropolitan Counties Branch of the British Medical Association, held last night at the Museum of Practical Geology, Jermyn Street, the subject of an improvement in the present procedure in death certification and registration came up for discussion. Sir W. Priestley, M.P., president, took the chair.

"Sir Henry Thompson moved the following resolution:—'Considering that a Select Committee of the House of Commons has in 1893 made an extended inquiry into the subject of death certification and registration on the plan now followed in this country, and has reported that it manifestly fails to accomplish the purpose for which it was designed, this meeting is of opinion that Her Majesty's Government should be

respectfully memorialized to bring in a bill as soon as possible to give effect to an improved procedure in general accordance with the suggestions offered in the Committee's report.' He said that, during the last twenty years or more, circumstances had not unfrequently occurred to attract public attention to the existence of grave defects in the system of death-certification adopted in this country, whether regarded as a safeguard against criminal attempts on life or as a means of forming trustworthy records of disease for scientific purposes. From the Registrar-General's report for England and Wales for the year 1892, it was shown that in fifteen thousand cases of death no inquiry had been made as to its cause, and that no certificate had been obtained from any source — a number amounting to nearly three per cent. on the total returned for the year. On the same authority it appeared that in twenty-five thousand more, or four and a half per cent., the cases 'were so inadequately certified as not to be classifiable,' making together a class of seven and a half per cent. in which no evidence of any value as to the cause of death existed. After what had already been done in the matter, all that appeared to be necessary at present seemed to him to be that they should forward a memorial to the Home Secretary, with a request that he would consider the important work which had been already done by the Select Committee, and, if he saw fit, take steps to embody their recommendations in an Act of Parliament, for the purpose of giving the country a greatly improved procedure in exchange for that at present employed. Dr. Isambard Owen, in the absence of Dr. Farquharson, M.P., seconded

the resolution, and asserted that the State now winked at an exceedingly loose system of death-certification, since under the present procedure it was possible for a medical man to give a death certificate on a patient whom he might not have seen for an interval of several weeks, and perhaps months. The resolution was supported by Dr. Nelson Hardy, Dr. Alderson, Dr. Hugh Woods, Dr. Sykes, and others, and was unanimously adopted."

Uncertified Causes of Death.

The condition of things mentioned by Sir Henry Thompson has improved somewhat in succeeding years, but it leaves much to be desired. In reply to Mr. Corrie Grant, Mr. Akers Douglas, the Home Secretary, stated on the 5th March, 1903, that the numbers of deaths of which the causes were not certified are as follows :—

1897	11,103
1898	10,441
1899	10,745
1900	11,257
1901	9,986

The matter is dealt with on p. xxix. of the Registrar General's Report for 1902. The last published figures for 1901 represent slightly under two per cent. of all registered deaths.

The Parliamentary Committee above referred to omitted an unexampled opportunity of inquiring into the facts of premature burial. They could have summoned pathologists who had made trance and catalepsy a subject of close and searching investigation, as well as

physicians who, in their practice, have been called in to decide upon cases of apparent death, and witnesses up and down the country who know of such cases, and others who have met with narrow escapes from these horrible mishaps. Instead of taking this reasonable course of procedure, the Committee contented themselves by examining two or three medical men, who had been summoned to give evidence upon the irregularities of death certification only, and whose negative and apathetic replies showed either that the subject had never engaged their attention or that they were unwilling to charge any member of the profession with a fault so ruinous to his professional reputation as to be unable to discriminate between the living and the dead. No questions were submitted to the witnesses as to the signs of death, the characteristics of catalepsy, trance, asphyxia, syncope, etc., or how to distinguish these from death, or with reference to the submission of tests in doubtful cases in order to ascertain the fact of death. Indeed, it may be observed that the investigation regarding a most vital point connected with death-certification appears to have entirely escaped the notice of this tribunal.

The Burial Act of 1900.

This Act of Parliament, which involves important changes in the law affecting burial authorities, came into operation on the 1st January, 1901. That is, seven years after the Parliamentary enquiry already referred to, and more than four years after the passing of the important resolution quoted above. Among the clauses are the following :—

1, Consecration ; 2, chapels ; 3, fees ; 4, transfer of powers to Local Government Board ; 5, inquiries by Secretary of State ; 6, protection of unconsecrated burial ground ; 7, obligation of incumbent as to burial ; 8, notes of intention to bury ; 9, application of certain provisions of Burial Acts to cemeteries under 42 and 43 Vict., c. 31 ; 10, boundary fences ; 11, meaning of burial authority ; 12, repeal ; 13, short title and commencement.

All these matters are of undoubted importance, but their importance is trifling compared with that of seeing that the subject of them is not only apparently but actually dead. Attention was called to this important oversight in the press while the bill was before Parliament; but in spite of this, and of the Parliamentary Committee's recommendations, and of Sir Henry Thompson's efforts, no change was made in the matter of death-certification.

On March 23 of the same year in which this Act came into force, *The Medical Times* deals forcibly with the subject, and says:—

". . . Briefly, our position is this. At present, in this country, there is no regular system of examining the bodies of persons assumed to be dead before certificates of the cause of death are given, and the latter certificate is the sole legal requirement to obtain the burial of the body. It is, therefore, manifestly possible—and, indeed, various cases have occurred which prove the possibility—that a certificate of the cause of death might be quite innocently given by a medical practitioner before the patient had actually died. It would be quite sufficient in many cases, for example, for the doctor to have seen the patient apparently in a moribund state, say, in the morning, and a relative to call at his house in the afternoon, announce the patient's death, and ask for a certificate, and it would be given. It has, indeed, actually happened that, in all good faith, such a statement has been made, and a certificate given, while the patient was not only not dead, but finally recovered. In the

next place, it is within the bounds of possibility that such a patient, in a comatose state, might be placed in a coffin and actually buried without being really dead. The occurrence, in short, *is* possible, and we do not at present desire to press the argument further. . . . Suffice it to say that, if the possibility of any person being buried alive be admitted, every human instinct must demand that measures should be taken to make such an occurrence absolutely impossible."

This important pronouncement by a responsible medical journal should give pause to those who are given to pooh-pooh and ridicule the subject, and should have some weight with members of Parliament in urging forward this much needed legislation.

The London Association for the Prevention of Premature Burial has been indefatigable in pressing this important matter upon public and Parliamentary attention, and a resolution passed by its executive council on January 15, 1903, states very succinctly the position it takes up:—

"That this council desires to call the attention of urban and rural sanitary authorities to the dangers of premature burial arising from the absence of a proper system of death-verification. That the fact admitted by the Home Secretary, that over eleven thousand persons are annually buried in England and Wales without any death-certificate, illustrates the extreme carelessness and haste with which persons apparently dead are consigned to the grave without any adequate inquiry as to the fact of death. That the discovery of the fact of live burial, should it occur, is almost impossible in the present state of the law, which forbids the exhumation of the corpse without the order of the Home Secretary. The sanitary and other local bodies are, therefore, urged to support a Parliamentary measure for providing guarantees against premature burial, whilst facilitating exhumation in cases where these guarantees have been omitted."

As the late Col. Vollum well wrote, just before

his death, "the core and essence of a protective law should consist in the reasonable and systematic registration of a certificate of verified death, rendered by a qualified physician after his personal examination of the body, before the issue of a permit for burial or other disposal of the body."

The carelessness with which a certificate may be given in consequence of the existence of a law which fails to bind upon a medical practitioner the necessity of carefully examining an alleged dead body before giving a certificate is illustrated by the following singular case, reported in the *Times* of January 19, 1878:—

"A poor woman lay very ill in her scantily-furnished home in Sheffield. The doctor was sent for, and came. He at once saw that hers was a very grave case, and that she had, as he thought, little chance of recovery, even if she could get the nourishment her illness required. As he was about to leave, the question was put, 'When should we send for you again, doctor?' 'Well,' was the reply, as he looked at the poor woman and then at her wretched surroundings, 'I don't think you need send for me again. She cannot possibly get better; and to save you further trouble I'll just write you out a certificate for her burial.' And he did. After the doctor departed the woman—women always were wilful—got better rapidly. She has now completely recovered, and goes about carrying her burial certificate with her."

Conditions in France.

"In Paris and the large French towns medical inspectors, called *médecins vérificateurs*, are appointed,

whose business it is to visit each house where a death occurs, and ascertain that the person is really dead, and that there are no suspicious circumstances connected with his or her decease. More than eighty qualified medical men are employed for this purpose in Paris.

"In the rural districts of France this system is not in force; two witnesses making a declaration to a civil officer that a death has taken place is considered sufficient. The burial is not allowed to take place until at least twenty-four hours after the declaration." —Blyth: "Dictionary of Hygiene and Public Health."

Dr. Léonce Lénormand, in his admirable work, "Des Inhumations Précipitées," p. 140, accuses the *médecins des morts* in France with culpable carelessness in the exercise of their function, which consists in verifying the reality of the death. Instead of making a minute examination of the body to ascertain the fact of death, this writer says they are content (except in cases of death from violence) to merely glance at the body, and immediately hand the family the necessary authorisation for interment. The inspector knows that if he examined every part of the body, as in duty bound, he would be accused of barbarism and profanation. In France, in spite of *médecins vérificateurs*, probably more premature burials occur than in any country in Europe, except Turkey, immediate burial after real or apparent death being the inexorable rule. Dr. Lénormand attributes the frequency of premature burials in France, first of all, to the negligence and prejudices of the families of the deceased; then to the carelessness of the doctors charged by the State with the

inspection of the dead; and, lastly, to the imperfection of the police regulations.

The *British Medical Journal*, January 28, 1893, p. 204 (Special Correspondence, Paris), writing on this subject, says:—

"The 77th Article of the Code obliges the *officier de l'état civil* to visit the death-bed and verify every death; but this Article is a dead letter. The officer in question has neither time nor knowledge sufficient to put it in practice. In small country places, rarely any precautions are taken to prevent premature burials. In more important villages and towns, the mayors delegate the doctors of the locality to verify deaths before burial. Throughout the whole of France, it appears that there are not fifty towns where the death-verifying service is well organised; and, on an average, there are from twenty thousand to thirty thousand burials without previous verification of death. The declaration of two witnesses is sufficient, who obtain their information from those around the deceased. In Paris, the two mortuaries already in existence—one at the Montmartre, the other at Père La Chaise—are rarely used. The bodies of those who die in the streets, from accident or sudden death, are taken there when there is no domicile; also, those of foreigners who die in lodging-houses. In the course of eighteen months the mortuary of Montmartre received five dead bodies, and Père La Chaise one.

Regulations in Brussels.

Extracts from "Regulations for the Domiciliary Examination of the Dead in the City of Brussels Civil Government (Medical Service)."

"ARTICLE 1.—The Medical Service of the Civil Government is distributed among the medical heads of divisions, the deputies and chiefs of the Department of Hygiene."

"ARTICLE 5.—No interment can take place except after the decease has been verified by the doctors of the Civil Government by means of a careful and complete examination of the corpse."

This verification, as well as the identity of the person deceased, shall be certified by a *procès-verbal* [statement or description, for which a blank is furnished "A"], which they shall leave at the house of the deceased.

"ARTICLE 8.—They shall notify the officers of the Civil Government, and their superintendents of police, of any infractions of the regulation provisions which forbid proceeding with autopsy, moulding [making a cast?], embalmment, or putting in a coffin the corpse, before the death has been duly ascertained."

"ARTICLE 9.—The verification of the decease of still-born or of newly-born infants shall exact a most attentive examination on the part of the examining doctors. They shall indicate in their report if the infant has died before, during, or after birth; and, in the last case, how long it lived after birth."

"ARTICLE 10.—If they doubt the reality of the death, they shall employ, without delay, every means of recovery that science suggests under the circumstances. They shall immediately notify the visiting doctor, and, in every case, shall prepare the *procès-verbal* of the verification of death only after certainty has been established, and, if need be, by repeated visits."

"ARTICLE 11.—When a woman has died in a state of advanced pregnancy, they shall direct the artificial extraction of the infant, supposed to be yet living; and, in the lack of an attending doctor, shall perform it themselves when necessary."

Regulations in Würtemburg.

The contrast between the laxity at home and the regulations laid down by authority in Würtemburg, Bavaria, and other Continental States, is remarkable, and should receive the attention of the Registrar-General without delay.

A Royal Decree, entitled "Dienst-Vorschriften für Leichenhaüser," for the inspection and burial of the dead, promulgated by the King of Würtemburg, January 24, 1884, provides for the appointment of medical inspectors of the highest integrity and qualifications in every commune, the position being justly regarded as one of great responsibility.

Immediately after a death, the body must under no circumstances be interfered with, and must not be removed from the death-bed until after the authorised inspection. *Post-mortems* can be made only if the fact of death has been previously clearly established. Precise instructions are laid down, so that the inspector, who is to examine the entire body, may see that the various forms of suspended animation are not certified as actual death. Amongst these are the following:—

"Section ii.—To see that sensibility, pulsation of the heart, neck, temples, and forearm, and the breath, have ceased. That the muscles of the body have lost their elasticity; therefore the limbs are limp, the face sunken, the nose pinched, the eyes sunken, and when the eye-lids are forcibly opened they remain so, the lower jaw drops more or less, and drops again when pressed upwards.

"In actual death the body gradually gets colder, beginning with the exposed limbs, and in from ten to sixteen hours the body will be quite cold. The colour of the face becomes ashy

pale, and the lips discoloured. The eye loses its brilliancy, and is usually dulled by a covering of dried mucus.

"If all the foregoing symptoms are exhibited, and particularly if the deceased was of an advanced age, or if the death was caused by severe or long illness, which led to the expectation of a fatal result, the fact of death may be safely assumed.

"But, on the other hand, if part of these symptoms are missing, or in cases of pregnancy, or exhaustion in consequence of flooding after confinement, or if death occurs under fits, or in violent outbursts of passion, the possibility of counterfeit-death is to be taken for granted.

"Notwithstanding the existence of all the symptoms (signs of death) before mentioned, the possibility of *apparent* death is not excluded in cases where the death has occurred after syncope, tetanus, suffocation, or in cases of drowning, stroke of lightning, or from a severe fall, or from frost, or in still-born children."

After detailing instructions as to a variety of experiments to ascertain whether the death is actual or apparent, this Royal Decree proceeds:—

"Section viii.—These experiments may, however, not give absolute certainty as to the complete extinction of all life. If, therefore, the slightest doubt remains as to the reality of death, the inspector is to take the necessary precautions for the protection of the deceased, by frequent inspections, and the most careful examinations, and to obtain the assistance of the nearest physician or surgeon, who is to co-operate with him to promote resuscitation. If these attempts prove abortive, he must see that nothing is done which would be detrimental to reanimation, or resumption of life."

Then follow minute instructions how to proceed under the varied circumstances which may have produced the symptoms known as apparent death. *In no case must the burial-certificate be handed over by the inspector until he has thoroughly satisfied himself of the presence of unmistakable signs of actual death.*

One cannot help contrasting these carefully considered rules with the lax and haphazard methods of dealing with the dead and apparent dead both in England and in the United States. As a consequence, cases of premature burial in Würtemburg are of very rare occurrence, and sensible people in that country, knowing that the danger of premature burial has been reduced to a minimum, are not consumed by an ever-abiding anxiety, as with us; nor is it the custom for testators in Würtemburg to give instructions to their executors for piercing the heart or severing the jugular vein, or some other form of mutilation, as in France, Spain, and other countries, where the risks are so terribly great.

The only case of the danger of premature burial that has come to the author's notice in Würtemburg is related by Bouchut, in his "Signes de la Mort," p. 48:—

"In the village of Achen, in Würtemburg, Mrs. Eva Meyers, twenty-three years of age, was taken ill during an epidemic. Her condition became rapidly worse, and she apparently died. They put her into a coffin, and carried her from the warm into a cold room, there to await burial, which was to take place at two p.m. on the following day. Shortly after noon on that day, and before the carriers arrived, she awoke and made an effort to rise. Her aunt, who was present, and who believed that a ghost had taken possession of her, took a stick and would have killed her, if she had not been prevented by another woman. Nevertheless, she succeeded in pushing the body back violently into the coffin, after which she indignantly went to her room. The patient remained helplessly

in that condition, and would have been buried if the usual hour for the burial had not for some reason been changed. Thus she remained for another twelve hours, when she was able to gather sufficient strength to arise. She still lives, and has paid the charges for her funeral, which were claimed by the clergy, the bell-ringer, and the undertaker."

Regulations in the United States.

In the United States the subject of death-verification has only recently begun to engage public attention. The following, at Dover, New Hampshire, appears to be the only instance in which reasonable, although not altogether adequate, precautions are adopted:—

"CITY ORDINANCES, 1895.

"CHAP. XVII. — VITAL STATISTICS.

"SECTION 3.—Whenever any person shall die within the limits of the city, it shall be the duty of the physician attending such person, during his or her last sickness, to examine the body of such deceased person before the burial thereof, and to make out a certificate setting forth, as far as the same may be ascertained, the name, age, colour, sex, nativity, occupation, whether married or single, duration of residence in the city, cause, date, and place of death of such deceased person; and it shall be the duty of the undertaker, or other person in charge of the burial of such deceased person, to add to such certificate the date and place of burial, and, having duly signed the same, to deposit it with the city clerk, and obtain a permit for burial; and in the case of death from any contagious or infectious disease, said certificate shall be made and forwarded immediately; and, in each case of a physician so examining and reporting, he shall receive of the city a fee of one dollar."

"SECTION 4.—Whenever a permit for burial is applied for, in case of death without the attendance of a physician, or it is impossible to obtain a physician's certificate, it shall be the duty of the city physician to make the necessary examination, and to investigate the case, and make and sign a certificate of the probable cause of death; and, if not satisfied as to the cause and circumstances attending such death, he shall so report to the mayor."

"SECTION 5.—No interment or disinterment of the dead body of any human being, or disposition thereof in any tomb, vault, or cemetery, shall be made within the city without a permit therefor, granted as aforesaid, nor otherwise than in accordance with such permit.

"No undertaker, superintendent of cemetery, or other person, shall assist in, assent to, or allow any such interment, or disinterment, to be made, until such permit has been given as aforesaid. . . . .

"Any person violating any of the provisions of this chapter shall be fined not less than ten nor more than twenty dollars."

MEDICAL AND LAY OPINIONS.

Dr. J. Brindley James, in a communication to the *Medical Times*, May 23, 1896, pp. 355-356, calls attention to the insufficient safeguards against premature burial under the present system of death-certification, and observes:—"The dread possibility of premature interment ever hangs like a gloomy sword of Damocles over all our heads, and fearful indeed is the authentic record of persons buried alive, who have recovered consciousness, too late, alas! to be rescued from their frightful dungeon. How often does our overworked—we do not say careless—practitioner sign the death-certificate of a patient whose death-bed he did not attend—whose corpse he has not visited? And, even

assuming him to have done so, and conscientiously too, in how many of the fearful cases above alluded to have not these formalities proved insufficient, clearly suggesting the advisability of a specialist, experienced in *post-mortem* inspection, solely sanctioning interment in all cases."

The *Daily Chronicle*, London, September 16, 1895, in a leading article on the danger of premature burial, says:—"The truth is, the whole system of certifying for burial needs to be reconsidered and reformed, and that for other reasons than the danger of entombment before life is extinct. We do not want a coroner's inquest, with its jury, for every death; but the doctors should be compelled, under severe penalties, to discover the certain sign of death before they authorise the burial, and to know the cause of death in every case. We trust now too much to individuals in a generally trustworthy profession, who may not reach the high general standard of their class, or may grow listless through the indifference wrought by use and wont, or who think they can detect the *rigor mortis* at a glance, never having seen the severest form of catalepsy. There would be no difficulty in getting Parliament to pass a more stringent regulation for death-certificates without much discussion, and there is no reason why Sir Matthew White Ridley should not turn his attention to the matter, and, with such medical advice as the Health Department of the Local Government Board will be pleased to lend him, propose a necessary little bill to the House of Commons next February."

But nearly ten years have passed away since these warning notes were sounded, and still nothing has

been done by the Legislature to meet the crying evil in our midst. Surely it is high time that Parliament seriously considered this important question, and took steps to safeguard the terrible possibilities, which, under the present lax system of death certification and examination, might at any moment overtake any subject of this realm.

CHAPTER XIX.

SUGGESTIONS FOR PREVENTION.

Unreliability of Death Signs.

"There is no more any pathognomonic sign to determine the moment of death than there is to establish the diagnosis of typhoid fever. Just as in the latter it is a combination of symptoms observed which makes the diagnosis sure, so in the case of death it is a collection of signs which gives the physician absolute certainty, and he alone can estimate their value." Thus spoke Dr. Brouardel during the course of his lectures on "Death and Sudden Death," delivered to the students of the Faculty of Medicine, Paris; and we have shown with some degree of clearness in chapter xiii. ("Signs of Death," pp. 219-247) that no single evidence of presumed death can be absolutely relied upon, and that nothing but the sign of putrefaction can afford evidence beyond dispute.

The learned Dr. Vigné, of Rouen, who won the respect of his fellow-citizens during a long and honourable career, was for many years engaged in the study of this question, and published the result of his researches shortly before his death. Convinced that the resources of science were insufficient to distinguish real from apparent death, he left testamentary instructions to provide against his own premature burial. ("Des Inhumations Précipitées," p. 83, by Lénormand.)

The noteworthy provision in the will of the late Herbert Spencer, to the effect that "my body shall be placed in a coffin with a loose lid easily opened from below," implies a sufficiently obvious direction, and manifests that the dread of eminent men abroad is shared by equally eminent men in this country.

Dr. Winslow, a French physician, who had on two different occasions very nearly fallen a victim to premature burial, having been laid out for dead, chose for the subject of his thesis before the Paris Faculty of Medicine, "Les moyens les plus propres à reconnaître la réalité de la mort." Dr. Winslow may be said to have been the pioneer of a movement in France for exposing the danger, and for educating the public into the necessity of reforms in the mode of treating the apparent dead; and although his efforts and warnings were as of one crying in the wilderness or amongst an apathetic people, with a legislature apparently uninfluenced either by facts or by reason, they were never relaxed. Numerous writers have since confirmed the truth of Dr. Winslow's contention by facts within their own experience, and it is believed that legislation in France cannot be much longer delayed.

That the risk of premature burial is not an imaginary one has been shown by the citation in this volume of cases of death-like trance which have baffled the ablest of medical experts; also the instances of numerous narrow escapes from this terrible occurrence, and of others where the victims were suffocated before timely aid could be obtained, most of which are drawn from medical sources. The painful reality is also shown by the multitude of preventive measures suggested by

medical authorities, and by the ingenious contrivances of those who have made this distressing subject one of patient and laborious research. Several of the remedies suggested for adoption in cataleptic cases are really homicidal, or seriously mutilative; many of them are impracticable, and have been shown by Hufeland, Lénormand, Richardson, Hartmann, Bouchut, Fletcher, and Gannal, to be delusive. The merits and demerits of some of these methods might be inquired into by the appointment of a Parliamentary Committee, or a Royal Commission, as a supplement to that appointed in 1893, by Mr. Asquith, on Death Certification.

Tests of the Senses.

From time immemorial it has been the custom in the East, and even in some parts of the Continent, to place women around a dead man's bed to cry and howl for the purpose of awaking him should he be only apparently dead. Similarly, not only the auditory but the olfactory nerves have been submitted to attack, by holding beneath the nose the strongest and most offensive substances. Pricking the skin with sharp instruments has also been adopted, and one *savant*, Josat by name, obtained first prize at the Academy of France for the invention of a pair of clawed forceps for pinching the nipples of the supposed dead, and this method held premier place as a means of distinguishing real from apparent death until it was demonstrated that subjects under profound hysteria were as indifferent to this painfully acute process as the dead. Even the eye has been studied with a view to establishing a definite conclusion: it has been asserted that,

providing the lids remain open, the conjunctiva and sclerotic will present a characteristic brown hue. And a further plan, which created some stir at the time of its announcement, consisted in photographing the retina of the eye immediately after supposed death, which, it was asserted, retained an image of the object last gazed upon. But this, and all the preceding tests affecting the senses, have proved to be fallacious.

The Blister Test.

A good deal of importance has been attached to the difference between a blister raised during life and one produced after death. Mr. George T. Angell, the editor of *Dumb Animals*, Boston, U.S., whose father was pronounced by his physician dead, and returned to consciousness after preparations for the funeral had been made, has repeatedly alluded to the subject in his paper, and published preventive suggestions at various times, including one from a physician, who, having been called to a man who had been dead twenty-four hours, lighted a match and applied it to the end of one of the fingers of the corpse, when a blister was formed, and, restoratives being applied, the man recovered. The physician adds the following conclusion: "If you are alive you cannot burn your hand without raising a blister; if you were dead, and flames should come in contact with any part of your body, no blister would appear, and the flesh would be burned."

A similar idea was promulgated in a letter to the *British Medical Journal*, January 18, 1896, under the title of "Living or Dead," by J. Milford Barnett, M.D. Edin., of Belfast:—

"Burial alive, though of exceedingly rare occurrence, sometimes does happen, and calls for increased attention to the means of detecting with certainty the presence of vitality, however feeble. The ordinary means of deciding the vital question are known to all persons. Auscultation may detect the enfeebled heart-beat, while the electric battery can elicit any existing muscular contractility. Conditions of trance are occasionally almost mystical in their profundity (Brahmin trance), and a simple and ready-to-hand test to decide whether death has occurred is of prime importance. We can ascertain whether or not life still lingers in uncertain cases by applying (say) to the back of the forearm a small stream of boiling water directly from the kettle. If life is present, the boiling water will soon and unfailingly raise a blister where applied, and the blister will contain fluid, the serum of the blood. The production of the serum blister being essentially a vital process, its production or non-production becomes an infallible test, and determines the question. This test, not generally known, should be widely proclaimed."

It is a fact, however, that life may be so torpid and inactive as to be unable to respond to the irritation of heat or blisters, or even to the application of red-hot irons. Upon the other hand, trustworthy authorities have declared that the phenomenon of a serum blister is not limited to life; a burn may raise a blister in a dead body soon after actual death, but there will most probably be an absence of areola—*i.e.*, a red inflammatory ring. The blister test is one which has so repeatedly failed that it cannot be relied upon.

The Auscultation Test.

The stethoscope, which is regarded by many medical practitioners as an infallible means of preventing premature burial, has proved a broken reed in hundreds of cases, and can be of use only when applied with

other tests. (See pp. 223-4.) Dr. Roger S. Chew, of Calcutta, writes to me, February, 1896:—

"The *British Medical Journal*, September 28, 1895, tells us that the careful use of the stethescope will enable a medical man to distinguish a living from a dead body. Auscultation may give startling results, and the body yet be absolutely dead. I recollect an instance of death from cobra-bite, when, though decomposition had set in, the relatives refused to believe she was dead, because one of them declared that, though he did not see her chest rise and fall, he had distinctly heard her sigh. A medical man was called in, applied the stethoscope over her thorax, and declared he could hear sounds from her lungs, and a peculiar '*sough*,' '*sough*' towards the apex of the heart. So far he was right, but as the girl had already been dead some fourteen hours, and the weather was warm, the sounds he heard were those of the escape of the putrefactive gases bubbling upward, and unable to find exit, as her mouth was closed with a chin-bandage, and her nostrils plugged with mucus. To convince the parents that the girl was really dead, I offered to perform artificial respiration, to which end I untied the bandage, prized open her jaws, and pressed *heavily* on her thorax, when some of the imprisoned gases escaped, emitting an abominable odour that brought conviction of the girl being beyond all hope.

"In another case, that of my son, aged two years, after a series of brain symptoms and severe clonic convulsions preceding an outbreak of confluent small-pox, the stethoscope told me, and a medical friend who was present, that my little boy had ceased to

exist; but a liberal application of ice to his head and cardiac region, together with violent friction and artificial respiration vigorously employed for *forty* minutes, restored the child to me, and I thanked God that I had refused to accept the evidence of the stethoscope as final."

The Electricity Test.

The application of the electric current is a powerful restorative agent in cases of suspended animation, if judiciously applied. When Ruben Korff invented his coil it was urged by many that a coil might be kept in every church in order to test each body before the funeral ceremony was proceeded with. Sir B. W. Richardson attached comparatively great importance to this test, but it must be remembered that electric excitability will last for some time after death—until *rigor mortis* sets in.

Struve in his essay, "Suspended Animation," p. 151, under the head of "Apparent Death From a Fall," says:—"A girl, three years of age, fell from a window two stories high upon the pavement. Though she was considered as lifeless, Mr. Squires, a natural philosopher, applied electricity. Almost twenty minutes elapsed before the shocks produced any effect. At last, when some of the electric force pervaded the breast, he observed a slight motion of the heart. The child soon after began to breath and groan with great difficulty, and after some minutes a vomiting ensued. For a few days the patient remained in a state of stupefaction, but in the course of a week she was perfectly restored to health."

Referring to the subject of premature burial, Dr. W. S. Hedley, writing to the *Lancet*, October 5, 1895, says:—Forty years ago the subject was investigated by Crimotel, twenty years later by Rosenthal, and more recently by Onimus. It seems safe to say that in no disease, certainly in none of those conditions usually enumerated as likely to be mistaken for death, is galvanic and faradaic excitability abolished in every muscle of the body. On the other hand, electro-muscular contractility disappears in all the muscles within a few hours after death (generally ninety minutes to three hours, according to Rosenthal), its persistence varying to some extent with the particular muscle examined (1), and with the mode of death (2). Therefore, if electro-muscular contractility be present in any muscle, it means life or death only a few hours before. It is clear that no interment or *post-mortem* examination ought to take place so long as there is any flicker of electric excitability. To me it seems almost equally obvious that in all doubtful cases, sometimes in sudden death, and often to allay the anxiety of friends, this test ought to be applied, and applied by one who is accustomed to handle electric currents for purposes of diagnosis."

The apparatus for applying electrical currents, long used by the Humane Society for restoration of the drowned, might with advantage be kept at public mortuaries, for use in cases of apparent death due to other causes, where decomposition has not manifested itself. The Weather Bureau at Washington advises those who are in the neighbourhood of persons struck by lightning to make immediate efforts to restore

consciousness, because the effect of lightning is to suspend animation rather than to produce death. Respiration and circulation should be stimulated, and the usual remedies for relief in such cases should be administered for at least an hour before giving up the victim as dead.

Dr. Moore Russell Fletcher says:—"When persons without pulse or breathing are found in bed, in the field, or elsewhere, treat them in such manner as will restore from stroke of lightning, paralysis, or suspended animation from catalepsy, trance, or somnambulism, and continue the treatment until resuscitation rewards the exertions, or decomposition is evident."—"Suspended Animation," pp. 7, 8.

Hypodermic Injections Test.

Mr. E. E. Carpmael, of the Medical Department, Berkeley University, U.S.A., recommends, in the *Morning Post*, London, September 19, 1895, the injection of strychnine in "a supposed corpse"; while "Medicus," in the *Daily Chronicle*, September 17, 1895, considers that *post-mortems* "would be to the advantage of the patient, to his relations, to science, and the community at large." No doubt either of these plans would prevent live sepulture, by killing the cataleptic subject; while "M.R.C.S.," in *Morning Post*, September 20, says:—"Obviously the simplest and best proof of death is putrefaction—shown chiefly by the discolouration of the abdomen."

A correspondent in the *English Mechanic*, October 25, 1895, says:—"I have long advised hypodermic injection of morphia before placing in coffin for

burial. *Ex hypothesi*, the vital spark is not supposed to have expired, and the circulatory system not finally stopped. Hence the hypodermic injection cannot be futile."

Dr. Donnellan reports a case of the passage of a current of one thousand volts through a man, which instantly caused coma, dilated pupils, pallor of the face, and sweating; delirium and tonic, alternating with clonic, spasms followed. The pulse was eighty. The respiration, at first stertorous, passed into the Cheyne-Stokes type. After the injection, first of morphia, and then of strychnia, the patient fell into a deep sleep, from which he awoke convalescent.—"Centralblatt für die medicinischen Wissenschaften."

Dr. Icard's Discovery.

The most remarkable of the hypodermic injections is that of Dr. S. Icard of Marseilles, who claims to have discovered an infallible test for distinguishing between persons actually or only apparently dead. It has received the honour of recognition on two occasions by the Institute of France (Académie des Sciences).

The fluid he uses consists of a weak solution of Fluorescine, to which he has given the name of Karminine. This, when sufficiently diluted, ceases to be poisonous. If this solution, it is alleged, be injected under the skin of a living person, in two minutes the skin, especially the mucous membrane, is strongly coloured, and the body has the appearance of suffering from an attack of acute jaundice. The whole of the eyes is said to assume a clear green tinge, the pupil almost disappears, and the eye looks as if it were a

brilliant emerald set in the face. In two hours all the phenomena disappear. But in the case of a dead man the solution produces no effect.

Artificial Respiration.

A medical correspondent, writing from Dresden, August 18, 1895, sends the following communication concerning the value of artificial respiration :—

"Major J. H. Patzki, Surgeon, U.S. Army, reports that in 1882, at St. Augustine, Florida, a lady patient of his had an attack of tetanus, caused by a scratch upon her foot by a nail while bathing. The convulsive symptoms commenced in the muscles of the face, and increased in violence in spite of energetic treatment, until the fifth day, when the respiratory muscles became involved. The breathing was completely suspended by the spasmodic action, and the radial and carotid pulse ceased. The cardiac sounds became utterly inaudible to careful stethoscopic examination repeatedly employed. The lady assumed all the appearances of death, and there was *rigor mortis*, the result of muscular spasm. Artificial respiration was resorted to, but not until after the expiration of eighteen minutes did the first faint efforts of respiration, and a feeble action of the heart, become perceptible. Artificial respiration was continued for an hour afterwards, and the life of the patient was saved, although the muscular spasms continued to some extent for six days.

"This case is instructive in showing that tetanus, when it involves the chest, may produce a state of apparent death, by interfering with the respiratory

and cardiac functions; and that artificial respiration, if persistently employed, may rescue patients so affected from the perils of apparent death."

An Instructive Article.

The following extracts from an instructive but apparently forgotten article in Dickens' "All the Year Round," July, 1869 (*à propos* of a pamphlet, "Lettre sur la Mort Apparente, les Conséquences Réelles des Inhumations Précipitées, et le Temps pendant lequel peut persister l'Aptitude à être rappellé à la Vie," by the late regretted Dr. Charles Londe), afford valuable suggestions :—

"Suffocation by foul air and mephitical gas is not a rare form of death in the United Kingdom. It is possible that suspended animation may now and then have been mistaken for the absolute extinction of life. Dr. Londe gives an instructive case to the purpose. At the extremity of a large grocer's shop, a close, narrow corner, or rather hole, was the sleeping-place of the shopman who managed the night sale till the shop was closed, and who opened the shutters at four in the morning. On the 16th of January, 1825, there were loud knocks at the grocer's door. As nobody stirred to open it, the grocer rose himself, grumbling at the shopman's laziness, and, proceeding to his sleeping-hole to scold him, he found him motionless in bed, completely deprived of consciousness. Terror-struck by the idea of sudden death, he immediately sent in search of a doctor, who suspected a case of asphyxia by mephitism. His suspicions were confirmed by the sight of a night-lamp, which had gone out, although supplied with oil and wick, and by a portable stove containing the remains of charcoal partly reduced to ashes. In spite of a severe frost, he immediately had the patient taken into the open air, and kept on a chair in a position as nearly vertical as possible. The limbs of the sufferer hung loose and drooping, the pupils were motionless, with no trace either of breathing or pulsation of the heart or

arteries; in short, there were all the signs of death. The most approved modes of restoring animation were persisted in for a long while without success. At last, about three in the afternoon —that is, after *eleven hours'* continued exertion—a slight movement was heard in the region of the heart. A few hours afterwards the patient opened his eyes, regained consciousness, and was able to converse with the spectators attracted by his resurrection. Dr. Londe draws the same conclusions as before—namely, that persons suffocated by mephitism are not unfrequently buried when they might be saved."

"We have had cholera in Great Britain, and we may have it again. At such trying times, if ever, hurried interments are not merely excusable, but almost unavoidable. Nevertheless, one of the peculiarities of that fearful disease is to bring on some of the symptoms of death—the prostration, the coldness, and the dull livid hues—long before life has taken its departure. Now, Dr. Londe states, as an acknowledged fact, that patients pronounced dead of cholera have been repeatedly seen to move one or more of their limbs after death. While M. Trachez (who had been sent to Poland to study the cholera) was opening a subject in the dead-house of the Bagatelle Hospital, in Warsaw, he saw another body (that of a woman of fifty, who had died in two days, having her eyes still bright, her joints supple, but the whole surface extremely cold), which vividly moved its left foot ten or twelve times in the course of an hour. Afterwards the right foot participated in the same movement, but very feebly. M. Trachez sent for Mr. Searle, an English surgeon, to direct his attention to the phenomenon. Mr. Searle *had often remarked it.* The woman, nevertheless, was left in the dissecting-room, and thence taken to the cemetery. Several other medical men stated that they had made similar observations. From which M. Trachez draws the inference: 'It is allowable to think that many cholera patients have been buried alive.'"

"Dr. Veyrat, attached to the Bath Establishment, Aix, Savoy, was sent for to La Roche (Department of the Yonne), to visit a cholera patient, Thérèse X., who had lost all the members of her family by the same disease. He found her in a complete state of asphyxia. He opened a vein; not a drop of blood flowed. He

applied leeches; they bit, and immediately loosed their hold. He covered the body with stimulant applications, and went to take a little rest, requesting to be called if the patient manifested any signs of life. The night and next day passed without any change. While making preparations for the burial, they noticed a little blood oozing out of the leech-bites. Dr. Veyrat, informed of the circumstance, entered the chamber just as the nurse was about to wrap the corpse in its winding-sheet. Suddenly a rattling noise issued from Thérèse's chest. She opened her eyes, and in a hollow voice said to the nurse: 'What are you doing here? I am not dead. Get away with you.' She recovered, and felt no other inconvenience than a deafness, which lasted about two months."

"The attention of the French Government has been once more directed to the subject. The petitioners have requested, as a precaution, that all burials for the future should, in the first instance, be only provisional. Before filling a grave, a communication is to be made between the coffin and the upper atmosphere by means of a respiratory tube; and the grave is not to be finally closed until all hope of life is abandoned. These precautions, it will be seen at once, however good in theory, are scarcely practicable. Others have demanded the general establishment of mortuary chambers, or dead-houses, like those in Germany. And not only the petitioners, but several senators, seem to consider that measure the full solution of the problem. Article 77 of the Civil Code prescribes a delay of twenty-four hours only, which appears to them to be insufficient, since, they urge, it presumes the certainty hat death has taken place only after putrefactive decomposition has set in. Now, a much longer time than twenty-four hours may elapse before that decomposition manifests itself. Deposit, therefore, your dead in a mortuary chapel, until you are perfectly sure, from the evidence of your senses, that life is utterly and hopelessly extinct.

"Although the French Government is anxious to enforce throughout the whole empire the rules carried out in Paris, it is to be feared that great difficulties lie in the way. The verification of deaths on so enormous a scale, with strict minuteness,

is almost impracticable. But even if it were not, many timid persons would say: 'Who is to assure us of the correctness of the doctor's observations? Unfortunately, too many terrible examples of their fallibility are on record. The professional man is pressed for time. He pays a passing visit; gives a hurried glance; and a fatal mistake is so easily made!' Public opinion will not be reassured until you can show, every time a death occurs, an irrefutable demonstration that life has departed.

"M. de Parville now announces the possibility of this great desideratum. He professes to place in anyone's hands a self-acting apparatus, which would declare not only whether the death be real, but *would leave in the hands of the experimenter a written proof of the reality of the death.* The scheme is this: It is well known that atropine—the active principle of *belladonna*—possesses the property of considerably dilating the pupil of the eye. Oculists constantly make use of it when they want to perform an operation, or to examine the interior of the eye. Now, M. le Docteur Bouchut has shown that atropine has no action on the pupil when death is real. In a state of lethargy, the pupil, under the influence of a few drops of atropine, dilates in the course of a few minutes; the dilatation also takes place a few instants after death; but it ceases absolutely in a quarter of an hour, or half an hour at the very longest; consequently the enlargement of the pupil is a certain sign that death is only apparent.

"This premised, imagine a little camera obscura, scarcely so big as an opera-glass, containing a slip of photographic paper, which is kept unrolling for five-and-twenty or thirty minutes by means of clockwork. The apparatus, placed a short distance in front of the dead person's eye, will depict on the paper the pupil of the eye, which will have been previously moistened with a few drops of atropine. It is evident that, as the paper slides before the eye of the corpse, if the pupil dilate, its photographic image will be dilated; if, on the contrary, it remains unchanged, the image will retain its original size. An inspection of the paper then enables the experimenter to read upon it whether the death is real or apparent only. This sort of declaration can be handed to the civil officer, who will give a permit to bury in return.

"By this simple method a hasty or careless certificate of death becomes impossible. The instrument applies the test, and counts the minutes. The doctor and the civil officer are relieved from further responsibility. The paper gives evidence that the verification has actually and carefully been made; for, suppose that half an hour is required to produce a test that can be relied on, the length of the strip of paper unrolled marks the time during which the experiment has been continued. An apparatus of the kind might be placed in the hands of the minister or one of the notables of every parish. Such a system would silence the apprehensions of the most timid; fears, natural enough, would disappear, and the world would be shocked by no fresh cases of premature burial."

The authors have not heard whether this ingenious contrivance had been put into practice, or with what result.

Prizes for Discoveries.

Various prizes have been offered, and awards made, by scientific and medical societies, but, with two exceptions, the so-called proofs of death for which the awards have been given are deemed unsatisfactory. The most notable of the prizes is that of the Marquis d'Ourches, who by his will bequeathed the sum of twenty thousand francs to be given to the author of the discovery of a simple and common means of recognising beyond doubt the absolute signs of death, by such a test as could be adopted by poor villagers without technical instruction. The Marquis d'Ourches left also a prize of five thousand francs for a similar discovery, but requiring the intervention of an expert. M. Pierre Manni, Professor at the University of Rome, offered a prize, which was awarded to Dr. E. Bouchut, in 1846. And M. Dusgate, by will, dated January 11,

1872, bequeathed to the French Academy of Sciences a sufficient sum in French *Rentes*, to found a quinquennial prize of two thousand five hundred francs to the author of the best work on the diagnostic signs of death, and the means of preventing premature interments. A decree of November 27, 1874, authorised the Academy to accept this legacy.

The *British Medical Journal*, January 21, 1893, p. 145, reports, through its Paris correspondent, the first award. "The Académie des Sciences proposed as the subject for the Dusgate Prize for 1890, 'The Signs of Death, and the Means of Preventing Premature Burial.' The prize has been awarded to Dr. Maze, who considers that putrefaction is the only certain sign. He urges that the deaths should be certified by medical men on oath; also that in every cemetery there should be a mortuary where dead bodies can be deposited, and that burial should take place only when putrefactive changes set in. Cremation should be adopted."

The second prize of 1895 and the third prize of 1900 have been awarded to Dr. Icard for his discovery, mentioned on page 312.

CHAPTER XX.

COUNT KARNICÉ-KARNICKI'S INVENTION.

THE ORIGIN OF THE IDEA.

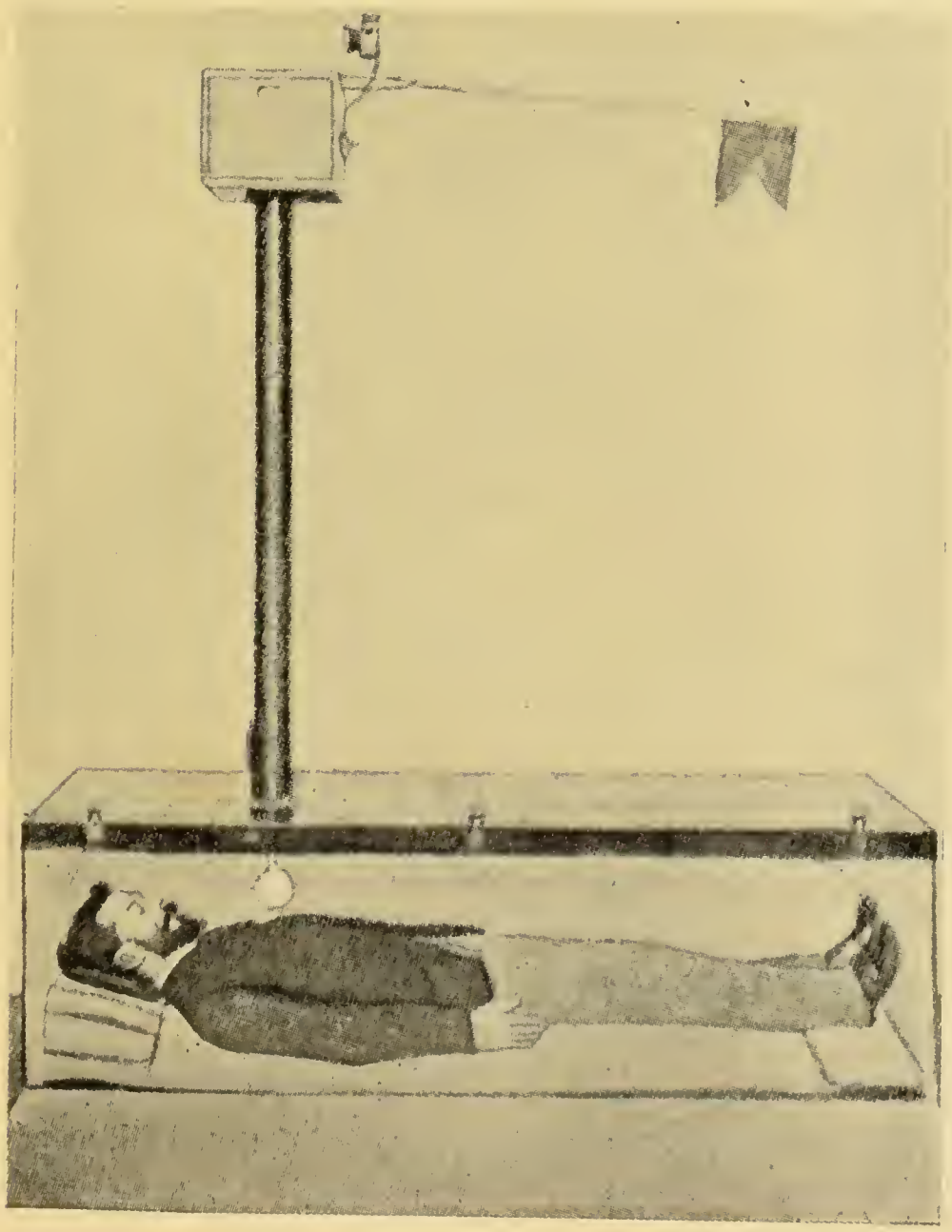
I HAVE thought it advisable to devote a special chapter to the consideration of Count Karnicé-Karnicki's ingenious invention, which has attracted so much attention on the Continent that many thousands of persons in France have left instructions in their wills for this scheme to be adopted at their interment, and a society is already formed in the United States for furthering the use of the system.

The Count is a Russian nobleman, the Chamberlain to the Czar and Doctor of the Law Faculty of the University of Louvain. He was first aroused to the horror of premature burial when attending the funeral of a young Belgian girl, who was awakened out of her lethargy by the first shovelfuls of earth thrown upon her coffin after being lowered into the grave, and her piteous screams have haunted him ever since.

For the prevention of such tragic occurrences, he set himself the task of providing some simple means which would be within the reach of rich and poor alike. The granting of a certificate, he felt, gave no security; waiting mortuaries were not likely to be provided, except in large towns; and, unless the law of the country permitted a body to remain under observation until putrefaction set in, there was no actual safeguard against premature burial.

The Apparatus Described.

Broadly speaking, it consists of a long tube, about three and a half inches diameter, and a hermetically-sealed box. The tube is fixed into an aperture in the coffin as soon as the latter is lowered into the grave.



No gases can escape from the tomb into the outer air, as the metallic box into which the upper end of the tube enters cannot be opened from the outside.

On the chest of the supposed dead body is placed a glass ball, several inches in diameter, attached to a spring which communicates through the tube with an iron box above ground.

On the slightest movement of the chest wall, as in the act of marked breathing, or movement of the body, the glass ball releases a spring which causes the lid of the iron box to fly open immediately, thus admitting both air and light to the coffin. At the same time a flag rises perpendicularly about four feet above the ground, and a bell is set ringing which continues for about half an hour. In front of the box, an electric lamp burns which gives light after sunset to the coffin below. The tube acts also as a speaking tube, and the voice of the inmate of the coffin, however feeble, is intensified.

The working ability of the apparatus has been tested by its application to individuals who volunteered to be coffined, and who found that the mere act of breathing was sufficient to produce all the phenomena mentioned above.

The price of the complete apparatus is exceedingly reasonable, only about twelve shillings; and it is suggested, in order that the very poorest may have the advantage of this simple safeguard, that authorities should keep a supply for hiring out, and putting to each coffin for at least a fortnight.

It is to be hoped that the burial and sanitary authorities in the United Kingdom will at least enquire into the merits of this unique invention.

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...d dead body is placed ... diameter, attached to ... through the tube with

... the chest wall, as in the ... ement of the body, the ... h causes the lid of the ... y, thus admitting both ... At the same time a flag ... r feet above the ground, ... ch continues for about ... e box, an electric lamp ... set to the coffin below. ... s to be, and the voice of ... r feeble, is intensified. ... paratus has been tested ... s who volunteered to be ... he mere act of breathing ... e phenomena mentioned

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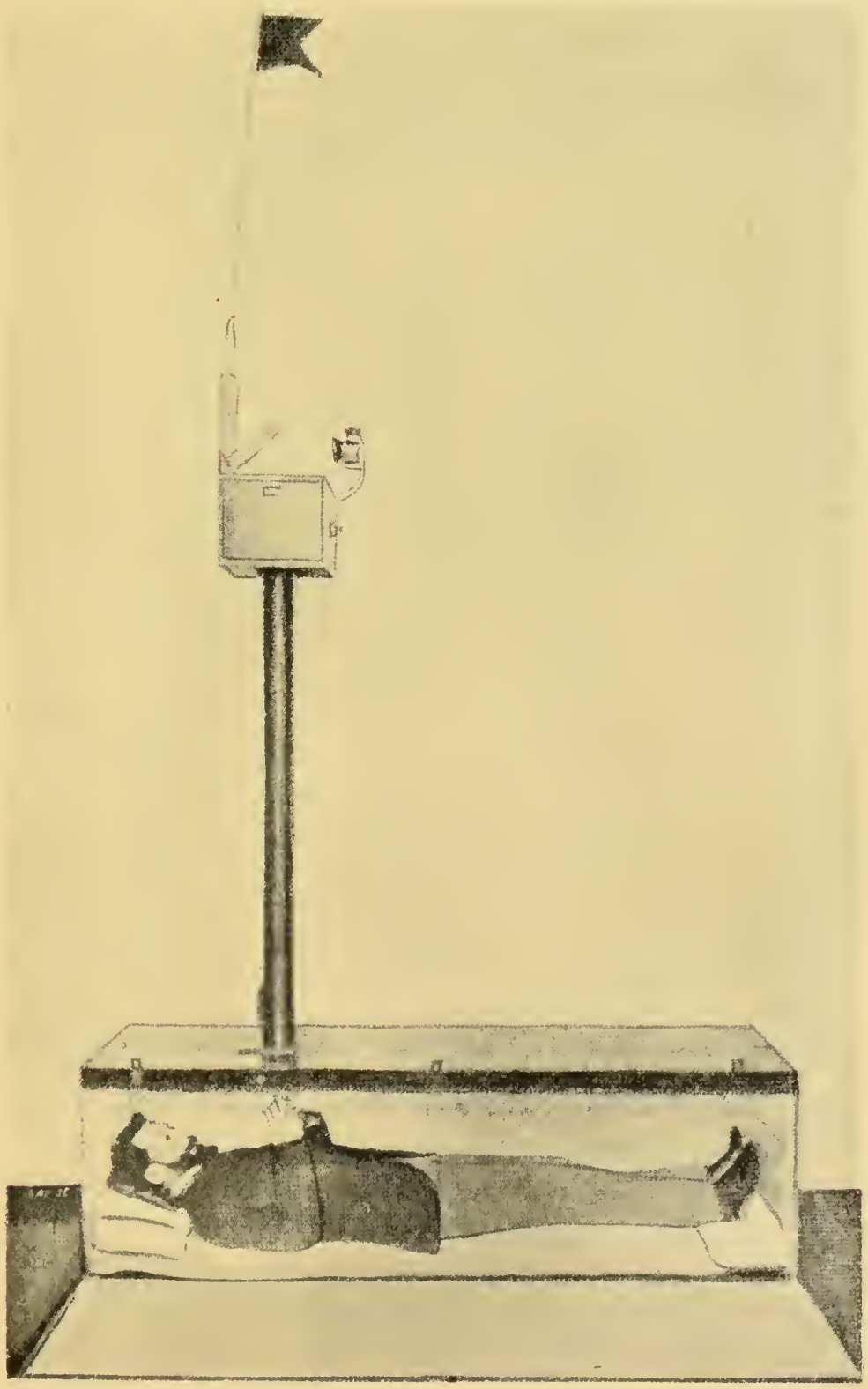

CHAPTER XXI.

CREMATION AS A PREVENTIVE.

Sir Henry Thompson's Opinion.

Amongst the numerous suggestions made by correspondents in the press with a view of preventing live sepulture, none has been more frequently put forward than that of cremation. Sir Henry Thompson, the president of the Cremation Society of England, in the second edition of his admirable volume, "Modern Cremation: Its History and Practice," p. 41, observes:—"There is a source of very painful dread—as I have reason to know—little talked of, it is true, but keenly felt by many persons at some time or another, the horror of which to some is inexpressible. It is the dread of a premature burial—the fear lest some deep trance should be mistaken for death, and that the awakening should take place too late. Happily such occurrences must be exceedingly rare, especially in this country, where the interval between death and burial is considerable, and the fear is almost a groundless one. Still, the conviction that such a fate is possible—which cannot be altogether denied—will always be a source of severe trial to some. With cremation no such catastrophe could ever occur; and the completeness of a properly conducted process would render death instantaneous and painless, if by any unhappy chance an individual so circumstanced were submitted

to it. But the guarantee against this danger would be doubled, since inspection of the entire body must of necessity immediately precede the act of cremation, no such inspection being possible under the present system."

Protection Not Absolute.

While agreeing with this distinguished authority as to the advantages of cremation from the sanitary and æsthetic point of view, which he dwells upon in the treatise referred to, and admitting that a certain amount of protection against live burial is obtainable by means of the dual medical inspection, we cannot agree that this protection is absolute. Cases of trance are on record where some half-a-dozen doctors, after careful examinations, have pronounced a cataleptic patient to be dead, and the patient, in defiance of their united opinion, has recovered consciousness, and been restored to health. In the terrible death of Signor Castaldi, an Italian stationmaster, from suffocation in a coffin, it was reported in the press that the *medical witnesses* swore at the inquest, previous to his removal to the cemetery mortuary, where his agonising struggle for life occurred, that he had died from heart disease, and it was only after the tragedy had happened the doctors discovered that the unfortunate man, whom they had pronounced dead, was in a state of catalepsy.

Dr. Franz Hartmann, in his "Premature Burial," quotes the two following cases amongst many others:—

"Madame de P——, aged eighteen years, and subject to hysteria, apparently died, and for forty hours she presented all the signs of real death. All possible means of restoring her to life were taken, but proved

of no avail. *Five physicians of Lyons were called in, and they finally agreed, positively, that the lady was really dead.* The funeral preparations were made; but owing to the supplications of a sister of the deceased the burial was delayed, when after a while the patient recovered. She said that she had been all the time aware of all that was going on, without being able to give a sign, and without even being desirous of attempting it." (F. Kempner, p. 38.)

"In 1842 a remarkable affair occupied the attention of the court at the city of Nantes. A man apparently died, and *his death was certified to both by the attending physicians and the medical inspector;* he was put into a coffin, and the religious ceremonies were performed in good style. At the end of the funeral service, and as he was about to be buried, he awoke from his trance. The clergy and the undertakers sent in their accounts for the funeral expenses; but he refused to pay them, giving as his reason that he had not ordered them; whereupon he was sued for the money." (F. Kempner, p. 39.)

Premature Burial Not Rare.

Neither can we share the optimistic views of Sir Henry Thompson as to the rarity of premature interment. The results of searching and independent inquiries and study in various countries by each of the authors of this treatise all point the other way, and the various authorities, whose names and opinions are cited elsewhere in this volume, confess their astonishment at the number of cases brought to light during their investigations. The Rev. H. R. Haweis also, in

his work, "Ashes to Ashes: A Cremation Prelude" (London, 1895, now out of print), advocates cremation on the ground of preventing living burial, and quotes several cases of persons buried while in a state of trance. During a discussion on the merits and demerits of cremation in the *Birmingham Gazette*, September 17, 1895, Lieutenant-General Phelps, an able and judicious observer, advocated cremation for similar reasons, and said that "the use of a crematorium would entirely prevent that ghastly accident, the burial of the living. There is no room to doubt that this frightful catastrophe is of continual occurrence. The phenomena of trance are little understood, and a certificate of death is held by most of us to justify the burial of the 'corpse,' dead or alive. Those of us who object to the risk of being buried alive should do all in our power to promote the success of this sanitary contrivance for disposing of our dead."

The writer of the following communication, which appeared in the *Sunday Times*, September 6, 1896, has substantial reasons for preferring cremation to the risks of burial:—

"BURIAL DANGER AND ITS PREVENTION.

"Madam,—When I was about five years old, my paternal home was one day plunged into a state of great consternation, through the sudden apparent death of my father, who had been sitting up during a part of the previous night, occupied with some literary work, without a fire (it was in January), which brought on a death-like numbness, in which he was found the next morning. The family doctor, who was sent for at once, declared life to be extinct, but said he could not tell the cause of death until after the opening of the dead body. My mother, however, who did not see any reason why a young man of thirty-six should have

died without any previous illness, caused the body of my father to be rubbed for about two hours, which renewed its circulation and brought it to life again. My father lived thirty-two years after that memorable day. Without the prudence of my mother, he would either have been dissected or buried alive. About twenty years after that occurrence, I visited the cemetery of Père La Chaise (Paris), accompanied by some friends. While inspecting the monuments of some musical celebrities we heard a noise from another part of the cemetery, whereto we proceeded without delay. When we had arrived there we found a strong body of policemen surrounding an open grave. But in answer to our inquiring 'what had happened,' we were simply requested to leave the cemetery at once, which, of course, we had to do. Neither the *portier* nor any other person connected with the burial-ground would give any satisfactory answer to our questions. We left puzzled. But a week after, a young lady, who had been of our party the week before, went again to the Père la Chaise, determined to penetrate the mystery, in which endeavour she succeeded, partly through persuasion and partly through the gift of a twenty-franc piece to a grave-digger, who then told her the following story :—A poor young man of twenty-one years had been buried on the day of our visit. When the mourners had left the cemetery, the grave-digger who was occupied in filling up the grave heard some noise coming from below. He hastened to the superintendent of the cemetery, imploring him to have the coffin opened, which, however, the superintendent could not do without the permission and the presence of the Commissaire de Police of that district. When the Commissaire appeared at last with his men, all was silent in the grave. But he had the coffin opened, nevertheless, 'to appease the mind of that poor grave-digger,' as he mockingly said. But great was the horror of the Commissaire de Police and his followers when the coffin was opened. The unfortunate young man (who was now quite dead) had been buried alive, recovered consciousness in his grave, scratched his face, bitten off the tips of his fingers, and turned round in his coffin, until suffocation put an end to his sufferings, which, if not long, must have been terrible. The Parisian newspapers did not

mention the case. They were probably forbidden by the French Government to do so. But would it not have been wiser to let the whole world know of it, and thereby prevent repetitions of such dreadful occurrences? A similar case of live sepulture occurred in a village near Wiesbaden some thirty years ago, where a girl of sixteen was found with the same signs of suffocation in her coffin as those of that unfortunate young man in Paris. We are assured by a German authority that thousands of people are buried alive every year. But why should this be the case? If people must be buried before they begin to show signs of putrefaction (which seems to be the only reliable proof that life is really extinct), why not shorten their sufferings, in case of resuscitation, by opening an artery before they are buried? There is still much prejudice against the cremation of dead bodies, although two great facts are decidedly in its favour—viz., the impossibility of recovering consciousness when once inserted in the crematory oven, and the prevention of the unhealthiness which the slow process of putrefaction must entail.—Yours, etc.,

"London." "J. H. BONAWITZ."

PRECAUTIONS OF THE CREMATION SOCIETY.

Having regard to the importance of the subject, the author wrote to the hon. secretary of the Cremation Society of England, and received the following reply, dated 8 New Cavendish Street, London, W.:—

"With reference to your enquiry as to the steps adopted to prevent a person in a trance being cremated, I may say that this society has not made any special provision in that respect. You will notice, however, that, before a cremation can be carried out, the cause of death must be certified without the slightest shadow of doubt by two duly qualified medical men. This being so, I think there is less likelihood of a person

who is simply in a trance being cremated than buried, one doctor's certificate being sufficient in the latter case.

"(Signed) T. C. SWINBURNE-HANHAM."

Since the above was written, Sir Henry Thompson has published the fourth edition of his work, and in pp. 91, 92, the following significant words have been added :—

"In connection with this subject, it should never be forgotten that there is but one really trustworthy proof that death has occurred in any given instance, viz., the presence of a manifest sign of decomposition. That condition is always ascertainable, at all events to the professional eye, and it should always be verified before a certificate of death is signed. Unhappily, no special attention to it is demanded under the present national system of registration. In the enquiry invariably adopted by the Cremation Society, the inspection is enforced, and the answer must be recorded by the medical man who signs the certificate."

Sir Henry then adds, in a letter to the *St. James's Gazette* of 6th December, 1892 :—

"It should be remembered that the body is sent (*i.e.*, to cremation) not in a coffin, but in a slight shell, to facilitate the inspection above referred to.

"Were these precautions enforced by the State in every case of death, whether for cremation or otherwise, there would be no fear at all in relation to the subject.

"(Signed) HENRY THOMSON,
"President of the Cremation Society of England.

"35 Wimpole Street."

From this we conclude that the Cremation Society now adopts the precaution of waiting until signs of decomposition are apparent before committing a body to the flames. This is, indeed, the only certain way by which Mr. Swinburne-Hanham's assurance that death is "certified without the slightest shadow of a doubt" could be held to be satisfactory.

Prejudice Against Cremation.

There can be no question that popular sentiment is opposed to cremation largely on the ground that the latter is associated with paganism, and that Christianity teaches reverence for the body. Hence cremation in this country makes but little progress comparatively.

Dealing with this phase of the question, the Rev. John Page Hopps, in *Light*, July 4, 1896, says:—"We are told that respect for the dead urges to burial as against cremation, but many are now very keenly feeling the reverse of this. They can bring the mind to bear the liberation of the body by one swift act of disintegration and purifying, but cannot overcome the shrinking from subjecting it to the foul and lingering processes of the grave—or, perchance, to the horror of recovering consciousness in the grave." Mr. Hopps further states one of the strongest arguments thus:—"Respect for the living, too, is an urgent motive. The highest authorities tell us that the air we breathe and the water we drink are often contaminated by the emanations of graves. It cannot be right that London, for instance, with all its inevitable impurities, should add to its foulnesses that of trying to live in company with thousands upon thousands of decaying bodies in its very midst."

To dispose of the dead decently, and at the same time without injury to the living, is one of the first obligations of civilised communities, and cremation seems best calculated to fulfil the conditions. Zymotic diseases, such as typhus, scarlatina, and the plague, have been traced in certain instances to emanations from burial-grounds.

Dr. Charles Creighton, in his "History of Epidemics in Britain," vol. i., p. 336, says:—"The grand provocative of plague was no obvious nuisance above ground, but the loading of the soil, generation after generation, with an immense quantity of cadaveric matters, which were diffused in the pores of the ground under the feet of the living, to rise in emanations more deadly in one season than in another."

It would seem from these experiences as though there was quite as much truth as poetry in Shakespeare when he said, "grave-yards yawn, and hell itself breathes out contagion on the world." Before many years it is not unlikely that cremation in this as in some other countries will be made obligatory in cases of death from all infectious diseases. As the late Bishop of Manchester observed, "the earth is not for the dead, but for the living." Professor Alexander Wilder, M.D., in his "Perils of Premature Burial," 1895, p. 16, says:—"I have often wished that the old Oriental practice of cremation was in fashion among us. There would then be at least the comfortable reflection of no liability to suffocation in a coffin. The application of fire, however, will generally rouse the cataleptic person to some manifestation of life."

Cremation in England and Abroad.

In "The London Burial-Grounds," by Mrs. Basil Holmes, 1896, p. 269, the question is asked: "Are we ever to allow England to be divided like a chess-board into towns and burial-places? What we have to consider is how to dispose of the dead without taking so much valuable space from the living. In the metropolitan area alone we have almost filled (and in some places over-filled) twenty-four new cemeteries within sixty years, with an area of above six hundred acres; and this is as nothing compared with the huge extent of land used for interments just outside the limits of the metropolis. If the cemeteries are not to extend indefinitely, they must in time be built upon, or they must be used for burial over and over again, or the ground must revert to its original state as agricultural land, or we must turn our parks and commons into cemeteries, and let our cemeteries be our only recreation grounds, which heaven forbid."

According to Dr. Ebenezer Duncan, eight thousand bodies are buried yearly in Glasgow and its neighbourhood, poisoning both air and water, and endangering the public health. The same state of things has existed in London, Manchester, Liverpool, Birmingham, and other large towns. The following resolution was unanimously adopted in the Preventive Medicine Department of a Health Congress, Glasgow, in July, 1896:—"That in the opinion of this Congress cremation of the dead, especially in cases of infectious disease, is a natural and very desirable hygienic process, and that this Congress of the British Institute of Public Health use all proper

means to urge upon the Government the desirability of their promoting a measure to enable sanitary authorities, if they so desire, to build crematoria and to conduct them under proper superintendence."

During the thirteen years ending 1890 there were three hundred and three thousand four hundred and sixty-six deaths from cholera in Japan, and all the bodies of these persons were cremated. In India, as we have already shown, cremation is practised under most of the religious systems, as it is believed that the soul is not free from its earthly tenement until the body is reduced to ashes. The method of burning is slow and cumbersome as compared with that adopted in Europe; but during the author's last visit to Ceylon, in the early part of 1896, there was some talk of establishing a crematorium.

CHAPTER XXII.

WAITING MORTUARIES.

Their Necessity.

In *La Presse Medicale*, Paris, August 17, 1904, appears a very interesting article by M. Icard, of Marseilles, occupying more than twelve columns of the journal, on the subject of "The Danger of Apparent Death." The writer, who holds a high position in the medical world, says that for the past twelve years he has conducted enquiries into every report of alleged premature burial or of apparent death which has appeared in the public press, by writing to the mayor of the town where the event was said to have taken place, or to some other official capable of giving authentic information.

Dr. Icard proceeds to state that it would be useless for him to repeat the numerous facts which he had published in a preceding work,[1] but he goes on to enumerate in detail some twelve instances of resuscitation which, for the most part, have not been previously published. The cases he gives are all those of apparent death, certified as dead in almost every instance by medical men, but which subsequently "came to life" just in time to save them from the most horrible of deaths. In one instance "return to life" took place

[1] "La Mort et la Mort Subite." Paris, 1895. Ouvrage couronné par l'Institut de France, Paris, 1897.

in the presence of several doctors whilst the funeral ceremony over the supposed corpse was solemnly proceeding. M. K. Boussakis, Professor of Physiology at the Faculty of Medicine of Athens, was an eye-witness of this scene. And another well-authenticated instance was that of a fisherman who had been "dead" for twenty hours from "apoplexy," and whose body was cold. He was wrapped and sewn up in his funeral shroud, and left till the time of burial; but on the way to the cemetery the bearers heard muffled sounds within the coffin, which was accordingly opened. Three medical men who were passing were appealed to in order to pronounce on the man's condition. Restorative means were employed, and in a few days he was well. This is given on the authority of Dr. Zacutus Lusitanus, who was present on the occasion. The writer declares that he has "taken the greatest pains to verify every case he now publishes," and "the proof of authenticity is," he says, "of such a nature as must carry conviction to the minds of the most sceptical."

In the course of this valuable article, Dr. Icard draws attention to the waiting mortuaries established in many towns in Germany, in which the bodies of the certified dead are deposited until the evidence of putrefaction is apparent; and he goes on to say: "It is stated by some authors that there is no instance in the registers of these mortuaries 'of those resurrections which are served up as a feast for the popular imagination,' and they argue from such statements, which they think cannot be answered, against the reality of the danger of apparent death. But are not those

authors," he asks, "who reproach others with credulity when they cite an instance of apparent death, very credulous themselves when they affirm, on the faith of others, their disbelief in cases of resuscitation from apparent death in German mortuaries?"

One case in particular he gives, details of which he obtained from the burgomaster of Ludwigshaffen-sur-Rhin, in Bavaria. On the 13th June, 1903, towards six o'clock in the evening, a child, four days old, was brought to the mortuary, whose death had been certified by a medical man at nine o'clock that morning. The burgomaster adds that "the doctor examined the child, and found every sign of death, and ordered it to be taken to the mortuary." An hour after the body had been received the child gave signs of life, and it was subsequently returned to its mother, but it died in reality that same night.

Now, it is unnecessary to multiply cases. Granted that only one single unanswerable instance of apparent death — an instance which has sufficed to baffle the scrutiny of careful examination by a duly qualified medical man — be forthcoming, and such case upon removal to a waiting mortuary has recovered, it would, we maintain, be a sufficient warrant, not only for waiting until the only unmistakable sign of death—putrefaction—is evident, but for providing a suitable place for the body to wait in. The indifferent sceptic may reply: "What! would you go to such pains and expense, when the possibility of a mistake is probably only one in 50,000, or even more?" The humanitarian will promptly answer: "Yes; even if it were only one in fifty millions, *that one is a living human soul.*" But

we have already proved conclusively that such cases are anything but rare, and, as Dr. Icard graphically puts it in the article we have referred to, "if there are so many truly authentic cases of apparent death and of premature burial which have come to light, it is presumable that there are many more, the only witnesses of which are the boards of the coffin."

Their History.

A writer in the *British and Foreign Medico-Chirurgical Review*, 1855, vol. xv., p. 75, says:—"The earliest movements in the direction of means for the prevention of premature interments originated with Winslow, in France, followed by other well-known writers upon the signs of death. It was Madame Necker, however, who embodied their suggestions in a practicable form as submitted to the National Assembly, in 1792, by Count Berchshold. In the ninth year of the first French Republic (1801) a project was entertained for the erection of six 'temples funeraires' in Paris, but came to no good, as attendant evils preponderated. To Germany belongs the credit of having executed these designs in such wise that they should not prove the positive sources of more danger to the living than could be counterbalanced by the occasional preservation of an individual from the risk of premature interment. Believing that this risk had been prodigiously diminished since the establishment of these institutions for the reception of cases where doubt of the reality of death has existed, Hufeland, in Weimar, devised the plan that Frankfort-on-the-Maine incorporated with its reform in sepulture and

establishment of extra-mural cemeteries, in 1823. The first modern mortuary was opened at Weimar, Germany in 1791. Hufeland's plans have subsequently been adopted and carried out in many other German States. . . . As a sanitary measure the separation of the dead from the living, especially from among the crowded poor, would be, apart from the not less important point of verification of death, an incalculable benefit. . . . It behoves us in this matter to learn another lesson from our neighbours, and to take measures to prevent the occurrence of catastrophes too fearfully horrible to comtemplate in thought, too dreadful for the most vivid imagination to realise. Science can hold out no token by which to recognise the certainty of death. Sanitary police, at least in England, are indifferent about the risk of a few burials alive, and thinks it superfluous to prevent their occurrence."

The extensive literature on this subject shows that the struggle to bring about the existing mortuary system in Germany was kept up for many years before it obtained its measure of success. It was legalised about the year 1795, after the physicians of Germany, France, and Austria had shown the absolute necessity for it.

Mortuaries have continued in high favour with the people wherever they have once been properly established; none, so far as the author has been able to learn, have ever been abolished.

The Lancet's Approval.

Referring to the universal fear of burying relatives alive, the *Lancet*, September 20, 1845, vol. ii., p. 321,

observed:—"It is but little use to descant upon an evil without pointing out a remedy. In Frankfort, Munich, and in various other towns, houses, properly situated, have been fitted up for the temporary reception of the dead. Corpses are there deposited immediately after death, and taken care of until the signs of decomposition have become unequivocal, medical assistance being at hand should symptoms of vitality manifest themselves. By this simple plan all the objections which attend on the retention of the dead in the dwellings of the poor may be obviated, and at the same time their dread of burying their relatives while still alive respected. This plan is evidently much preferable to that which is followed in France. In the latter country, in the large towns, there is in every district a medical inspector of the dead. The inspector is informed of the death as soon as it has taken place, and within a very limited time is bound to inspect the body and give a formal certificate. This guarantee having been obtained, the inhumation of the deceased is enforced by law within two or three days of the death. Notwithstanding this precaution, cases have occurred, even during the last few years, which appear to prove that inhumation has taken place before life was quite extinct. We doubt, also, whether such early interment could under any circumstances be enforced in our own country. Some modification of the German plan is evidently what we must look for in any system of legislation which may hereafter be decided on." These admirable suggestions from the leading medical journal were made more than half a century ago; since that time, every year has brought to light cases of living burial, and confirmed

the urgent need of reform; but nothing has been done until quite recently to awaken public attention to their importance. The subject is of such a gruesome, unpleasant, and depressing character that few people care to have their names associated with a movement of this character, beneficent though it is, and certain to save thousands of unfortunate people, particularly women and children (who are more especially liable to various forms of suspended animation), from such tragic occurrences.

THE MORTUARIES OF MUNICH.

Of all the various methods that have been suggested or introduced for the prevention of premature interment, none has been attended with such satisfactory results as the erection of mortuaries (Leichenhäuser) in Germany.

Those of Munich are, perhaps, the finest which have yet been erected, and are replete with every modern appliance for resuscitation, should such be necessary, and furnished with every requisite suited to the refinements of sympathy and taste.

In order to better understand the precise conditions which should obtain in such establishments, we have added photographs of parts of these extensive buildings, for which we are indebted to the excellent French journal *L'Illustration*, and from the interesting description published in its columns we have extracted many of the following particulars. These particulars, with the accompanying illustrations, will explain, far better than any advice we can give, the reform which, we believe, is urgently needed in our own country.

Waiting mortuaries have existed at Munich since the beginning of the last century. The custom of removing bodies to them was at first optional, and, therefore, was not freely taken advantage of. In 1869, however, at the time of an epidemic of cholera, a police regulation rendered it obligatory. At first the inhabitants rebelled, looking upon those who wished to take away their dead from them as odious; but the authorities were very determined, and by degrees the citizens became used to a custom the advantages of which are now highly appreciated.

When a death occurs in a house in Munich, the family at once apprise the police of the fact, and they themselves have no more to do with the matter. Half an hour after, a public medical officer arrives, who confirms the death, and gives permission for the corpse to be removed. At the Town Hall a whole army of women, supported by the municipality, is permanently kept, who are deputed to "lay out" the corpse, etc. One of these women arrives at the same time as the doctor; she washes the corpse, dresses it—usually in the best ordinary attire—and puts it in the coffin, which

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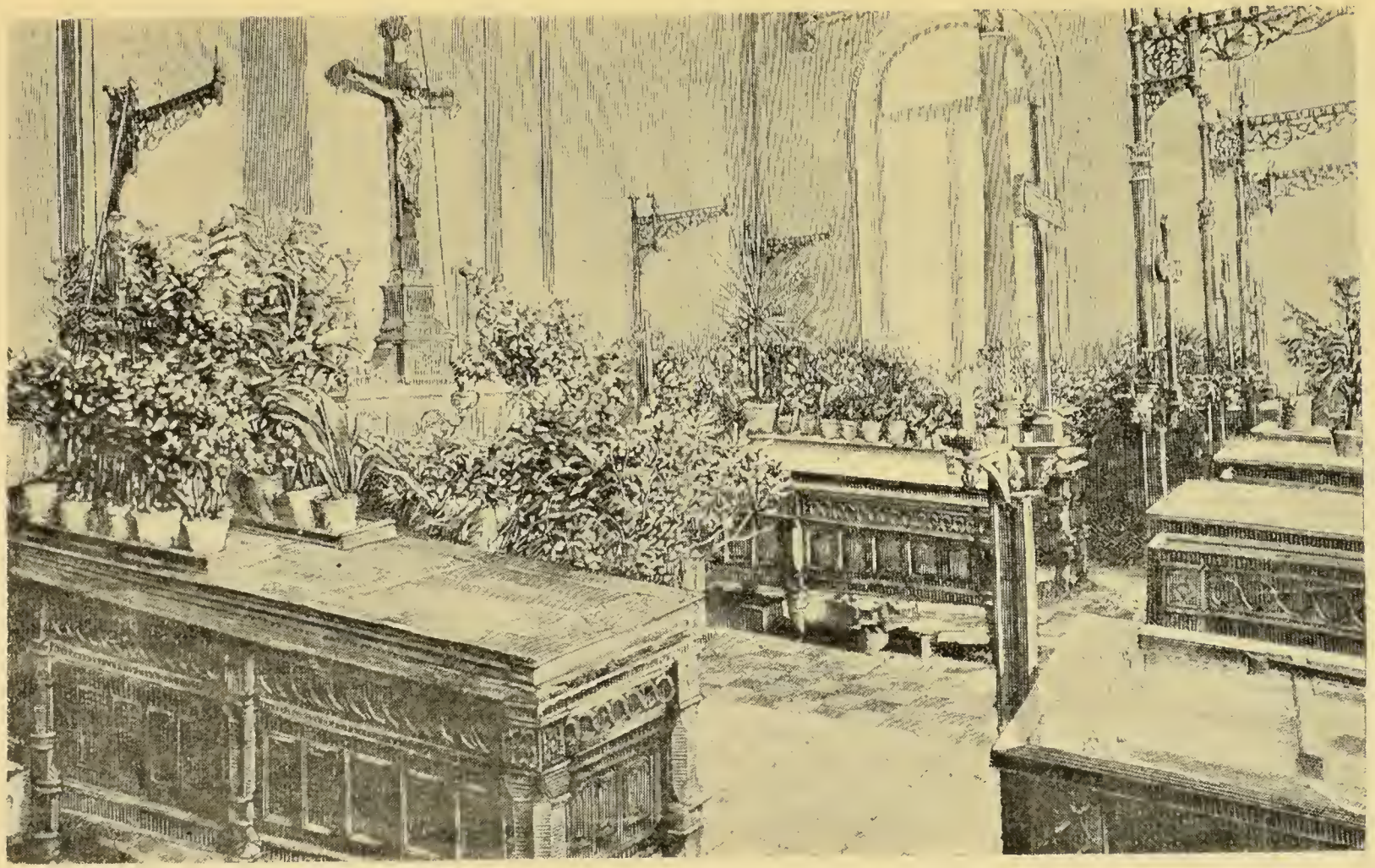

is then conveyed by a hearse to the mortuary. None of the family accompany it. Everything is done with the utmost rapidity. According to the regulations, the body must be removed within twelve hours after death, or within six hours if the case is contagious. These rules are strictly observed; often even at the end of three or four hours the death chamber is empty.

Munich has ten mortuaries; nine are open to those of every religion, one is reserved for those of the Jewish faith. It is the mortuary chamber of the North Mortuary, which is here reproduced.

In an immense room, closed by large glass doors, through which the interior can be seen from the outside, are ranged in three rows twenty sarcophagi, fixed in a sloping position. The slabs upon which they rest are supplied with a zinc trench, filled with an antiseptic fluid. At the head of each coffin a rod is fixed, from which falls a cord having a metal ring at its extremity. This cord communicates with a system of bells, and the least pressure on the rope sets it in motion.

From the moment of its arrival at the mortuary the coffin is uncovered, and placed on one of the slabs. The body is raised, and reclines upon a cushion, and the whole is covered by a profusion of flowers, usually allowing only the head of the corpse to be seen, besides a large ticket bearing the number of identification. The hands are crossed upon the breast, and one of the fingers inserted in the ring. All this is carried out by public servants, who usually show good taste in these funeral arrangements. Many families have their dead photographed like this; and the coffin is carried into a court

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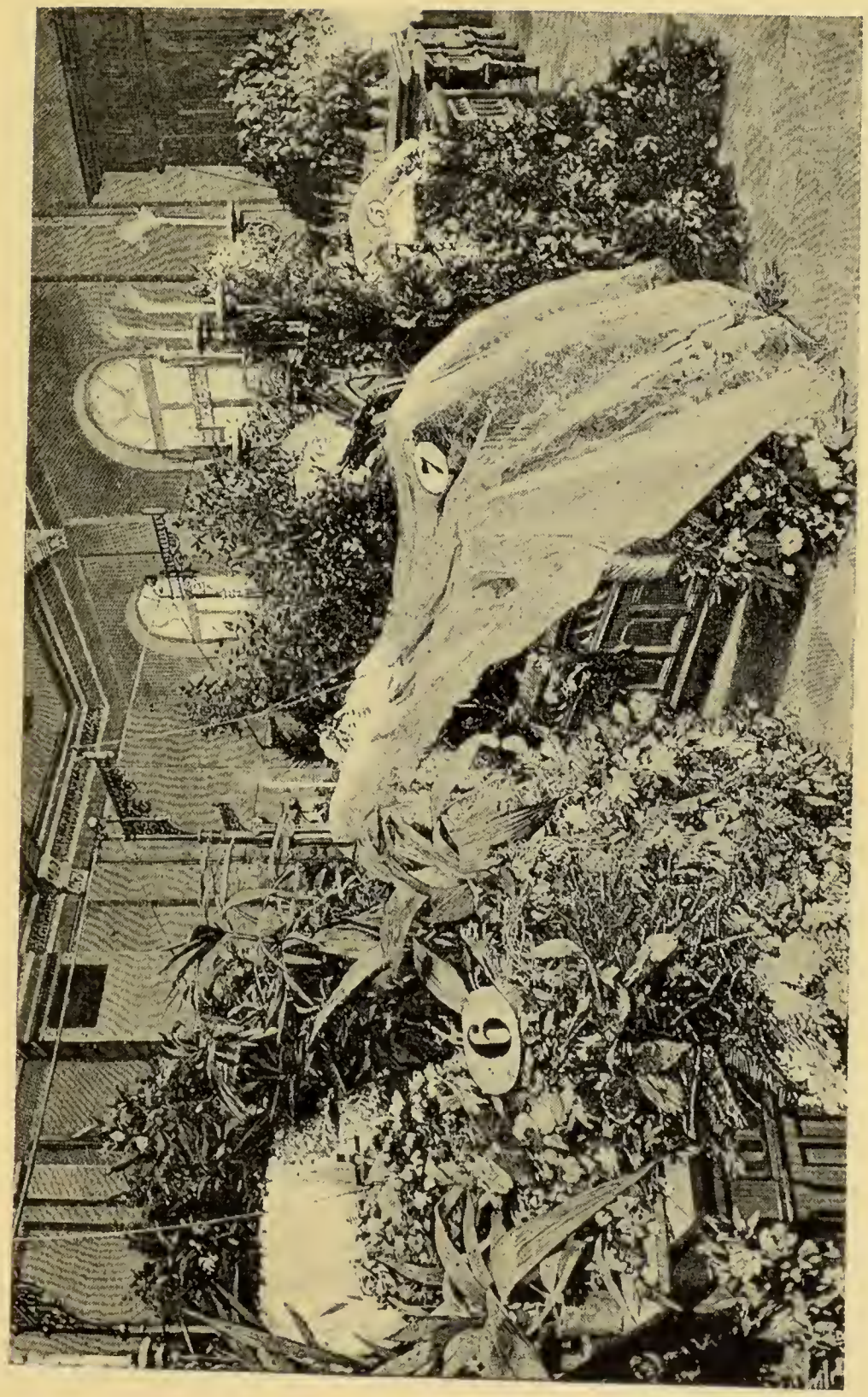


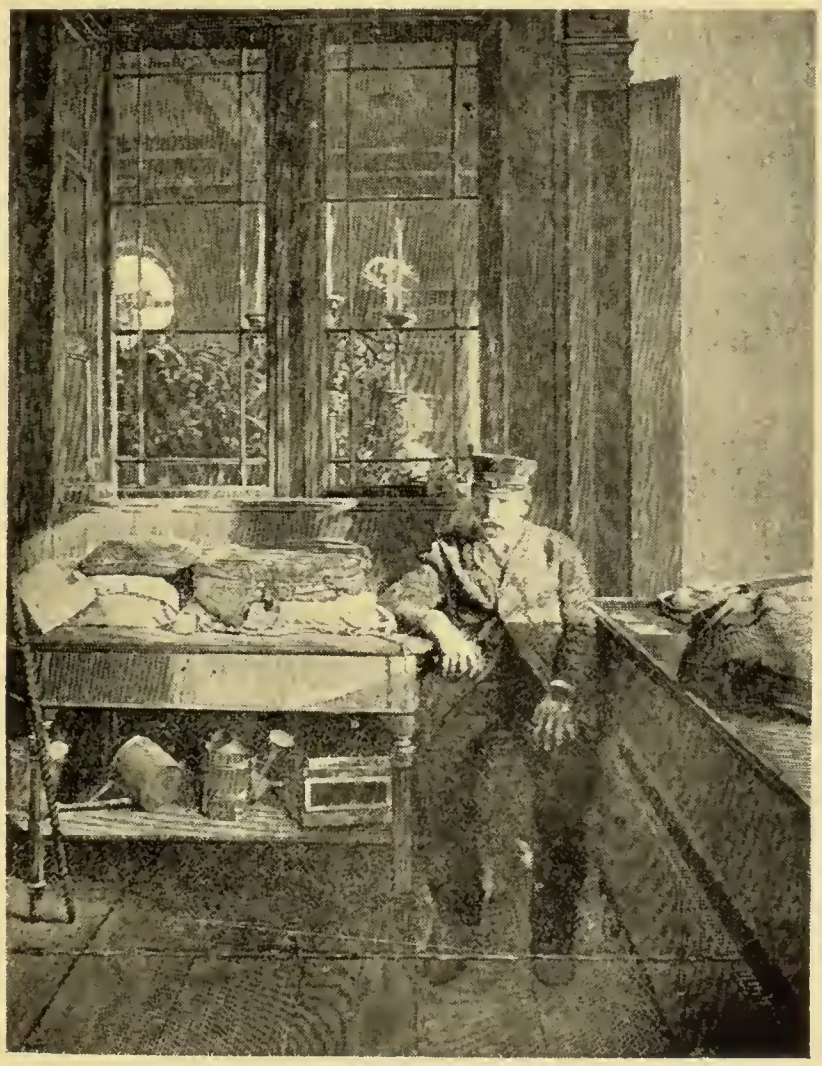
specially kept for this purpose. Owing to the perfect ventilation and the steadiness of the temperature, no odour is noticed but the smell of the flowers and the lighted candles. The relative purity of the atmosphere is really astonishing.

There is a room for the rich and another for the poor, adjoining each other. Nothing distinguishes them, except perhaps the quality of the flowers provided for the respective classes. The cost is very moderate. The total charge (not counting the service in the church, or the price of the certificate) varies from £1 to £6.

The body remains exposed thus from forty-eight to seventy-two hours. The relatives are allowed to visit, and, also, they may appoint a nun or other person to watch.

Between the two mortuaries is the caretaker's room —a narrow cell, containing the bell apparatus, which is enclosed in a long cupboard, like the case of a grandfather's clock. For furniture—a table, a chair, and a couch. Windows look into the mortuary. It is here that the caretaker passes the greater part of his existence. He has to make frequent rounds of inspection, and is not allowed to leave under any pretext whatever, no matter for how short a time, unless he leaves a substitute. In the evening he stretches himself upon his couch, where the slightest tinkle of the bell would arouse him. This frequently happens; the warning bell is so sensitive that the least shake of the corpse sets it in motion. But the guardian is not at all flustered; various causes may agitate the bell, and the waking of a corpse is a very rare occurrence. Nevertheless, the caretaker at once

goes to ascertain the cause of the alarm, and, having assured himself that the corpse preserves all the signs of death, he readjusts the cord, and returns to continue his sleep.



The coffin is closed only a few minutes before interment, and after a final medical examination has taken place. Sometimes, when a nervous family wishes it, the coffin is carried into a separate room, where it

is kept open one or two days longer, often even making an incision on the heel.

One sad exception, however, to the usual satisfactory results is recorded by M. Gaubert in his work, "Les Chambres Mortuaires d'Attente." The incident he narrates occurred at Munich on 25th January, 1849, and is as follows:—

"A young man who was asphyxiated by charcoal had been declared dead by the doctor. After they had been watching the body twenty-four hours at the mortuary chamber, the family caused it to be carried to the church, where it passed the night without the customary caretaker. The next morning 'the corpse' was found bathed in its own blood, and the floor of the church was stained. Restored to consciousness during the night, and not having any help, the poor young man had succumbed to hæmorrhage, brought on by the incisions which they blindly practised on the body of the supposed dead one, to make sure of his death."

Another instance he gives, also occurred at Munich, is of a different character, but with a very sad accompaniment:—

"A little child, five years old, was carried to the Leichenhaüser, and the corpse was deposited as usual. The next morning a servant from the mortuary knocked at the mother's house, carrying a large bundle in his arms. It was the resuscitated child, which she was mourning as lost. The transports of joy she experienced were so great that she fell down dead. The child came to life in the mortuary by

itself, and when the keeper saw it, it was playing with the white roses which had been placed on its shroud."

A gigantic mortuary has recently been built in the west of Munich, the most perfect in Germany. Under the central dome are a series of chapels provided for different religions. On each side is an immense hall, shut off by big glass doors, which move on rollers along the ground, where the bodies are placed in one row. This gallery is flanked by two corridors, one reserved for the public, the other for the funeral service. The warning bells are worked by electricity. The heating and cooling arrangements are marvellously organised, keeping a constant temperature of +7 degrees, which, according to the German doctors, is the most favourable for preserving the body.

The question suggests itself here: Why should not the English-speaking peoples accept the long experience of a philosophical, painstaking, clear-minded people like the Germans, supported as it is by many sanitary and medical authorities in France, England, and the United States, and establish these institutions in connection with existing cemeteries, with such modifications as national habits, local tastes, and customs may dictate?

The Mortuaries of London.

In sharp contrast to the magnificent waiting mortuaries of Munich, Berlin, and other parts of Germany stand the mortuaries of the English metropolis. They are nearly all plain, gloomy, and depressing structures of

brick. The best of them comprise a coroner's court-room, coroner's private room, the caretaker's rooms, waiting room, *post-mortem* room, chapel, and viewing room connected. There is no physician in attendance, and no autopsies are performed except by surgeons upon their own cases, or for purposes of inquests. There are no appliances or conveniences for resuscitation, as all the bodies are regarded as dead, having been for the most part certified as such by a medical practitioner, the exceptions being such as are taken from the water or street by the police, or left there for inquest. The buildings are usually well lighted, and some of the rooms contain fire-places, but they are devoid of taste or ornamentation of any kind. The bodies are kept in coffins, which, if there is any odour proceeding from them, are screwed down. Permission is afforded for inspection by doctors or by any of the family of the deceased on application to the keeper. These mortuaries are kept clean, and decent and respectful treatment of the bodies is enforced by regulations.

By the courtesy of the Clerk to the London County Council, we have received a "copy of the last return of coroners' courts, mortuaries, and *post-mortem* chambers issued by the Council." This return is dated November 14, 1899. There appears to have been little alteration since the publication of the 1894 return, which we noticed in our first edition. In the annual report, 1902-3, it is said: "Three boroughs are provided with good mortuaries and *post-mortem* rooms. . . . . In the remaining boroughs partial or provisional accommodation as to mortuaries, *post-mortem*

rooms, and coroners' courts exist, and the question of the improvement of such accommodation is under consideration." That is, of the twenty-eight boroughs of which London is composed, only three are declared to be provided with "good" mortuary accommodation.

At Shoreditch "there is a small mortuary in the parish churchyard, consisting of two rooms—one of which is used as a *post-mortem* room. Any enlargement is prevented by the fact of it being a disused burial ground." It is proposed to improve it by "lining the walls with glazed tiles, and providing means for heating water." At Poplar the mortuary is "inadequate and unsuitable." The mortuary in Bromley Cemetery is "unsatisfactory"; and that in Bow Churchyard "is merely an old crypt, quite unfit for use as a mortuary, and has no *post-mortem* accommodation." We are officially informed that "in no part of the new borough of Wandsworth is . . . the mortuary accommodation entirely satisfactory."

At St. George-the-Martyr the mortuary "has no infectious chamber, and the *post-mortem* room is incompletely separated from the mortuary"; whilst at Christchurch and St. Saviour's there is "an inadequate mortuary under a railway arch." At Horsleydown, Southwark, "the inadequacy of the mortuary accommodation" has been repeatedly brought before the notice of the authorities. The Holborn mortuary is at the rear of the Town Hall; "the approach is either through the *post-mortem* room or infectious chamber" —the latter "serves as a viewing room to the mortuary"! The St. Giles mortuary and coroner's court is "rather small, and in a confined position." At St.

Paul's, Deptford, "there is a mortuary in the churchyard, but it has only one room, which serves as a mortuary and *post-mortem* room. This is contrary to the Public Health Act." There is no mortuary at Hatcham, nor at Charlton, nor Kidbrooke. Lee and Eltham are, according to the last return, in the same unsatisfactory condition.

At Greenwich "there is a mortuary, with *post-mortem* room, in a disused churchyard, but the approach is bad, there is no accommodation for infectious cases, and the fittings are capable of improvement." The mortuary at St. Nicholas, Deptford, is in the churchyard, and "consists of one room, with slabs for two coffins. It is also used as a *post-mortem* room and a gardener's tool-house and store." Plumstead provides "a small underground mortuary in St. Nicholas Churchyard, unsuitable for the purpose." At St. Martin's-in-the-Fields "there is a mortuary under the churchyard of St. Martin's Church, ... but there is no infectious chamber, waiting room, or viewing lobby."

Judging by the evidence which lies before us, the state of the mortuaries in the London hospitals is very much on a par with the state of similar places outside. The *Medical Times*, in an article, September 5, 1896, in describing some of the mortuary eccentricities, cites one hospital where the only place available was the wash-house, and concludes: "It would appear that the managers of metropolitan hospitals do not believe in the reality of death-counterfeits, and therefore make no arrangements for resuscitation." This condition of things is not encouraging, and can scarcely be deemed

worthy of the first city in the world. London mortuaries are found to be useful and convenient in relieving hotels and private houses of the dead pending funerals, and in cases of deaths from infectious diseases, as well as from accidents and acts of violence which require investigation. There is, therefore, a disposition to improve matters, but even in the three boroughs—Chelsea, Hampstead, and Stoke Newington—whose mortuaries are singled out from all the rest for official praise, much yet remains to be done ere the conditions can at all compare with buildings erected for a similar purpose on the Continent.

At small outlay they could be made creditable and useful establishments. First of all, they require the means of resuscitation, such as are in use at the Royal Humane Society's depôts and at the German mortuaries; also baths, couches, plants, flowers, and mural ornaments, with a skilled nurse or caretaker, and a medical practitioner either on the establishment or within telephone call.

A fundamental regulation should be added to the standing orders that, when there is no sign of decomposition, bodies should be treated not as dead but as sick needing attention, and to be kept under careful observation. Such simple and inexpensive alterations, gradually introduced by County, Parish, and District Councils, would, in the course of time, bring about a greater respect for the dead, with proper consideration for the apparently dead, besides increasing the feeling of the sanctity of human life. In the course of time these improvements would educate the public, and lead to the erection of new and handsome structures of

beautiful design, with appropriate artistic decorations, such as are to be found in Munich and other parts of Germany.

The following pointed recommendation made by Sir W. J. Collins, M.D., M.S., B.Sc., D.P.H. (London), late chairman of the L.C.C., in a paper read by him at the Hygiene Congress at Buda Pesth, is worthy of urgent notice: "I therefore hold that every inducement should be held out to the poor by local authorities, by the provision of decent, suitable, and attractive mortuaries, to allow their dead to be removed from danger to the living to a place where sentiment shall be respected and sanitation satisfied."

Mortuaries in the Provinces.

Judging by replies we have received from officials in many of the larger towns in the United Kingdom, the majority publish no reports of their mortuaries, nor do they issue any definite regulations. Separate records of the bodies laid in the mortuaries appear to be very rarely kept. In none is there the least assimilation to the ideas which permeate the official and public mind in the Continental towns referred to. They are simply depositories for the homeless and neglected dead.

Reports from Ireland.

The following extracts are from the report by Dr. J. E. Kenny, M.P., Coroner for the City of Dublin:—

"There are no local laws in Dublin or in Ireland

relative to the mode of disposal of the dead, but the Sanitary Acts, which refer to the United Kingdom of Great Britain and Ireland, can be availed of when necessary to compel the burial of the dead within a reasonable period, on the ground that an unburied body is a nuisance dangerous to public health. There is, however, no fixed period. Among Roman Catholics it is customary to bury the dead on the third or fourth day after death, but there is no hard-and-fast rule. . . . . The local burial authorities usually require a medical certificate of death before opening the grave, but there is no legal sanction for this, and it is merely the custom. The coroner's order for burial where an inquest is held does away with the necessity of such certificates as those above referred to, but *post-mortem* examinations in these cases are the exception, not the rule. A good many, however, are held on those who die in local hospitals, when the consent of the relatives or friends can be obtained. I have not heard of any case of cremation in Ireland, and earth-burial is the universal practice. Occasionally, when so ordered by the will of the deceased, a body is removed to England for cremation. I am myself rather in favour of cremation as a more scientific and safer method of disposing of the dead.

"There are no chambers (mortuaries) of the kind referred to in this question in Dublin, nor, so far as I know, in Ireland. I know of no law as to the signs of death which must be recognised to exist before burial is permitted, nor is there any officer on whom is thrown the duty of ascertaining or deciding whether such exist or not."

Objections Answered.

During the discussion on premature burials in the press, the erection of mortuaries (chambres mortuaires d'attente) has been objected to (1) on the ground of expense to the ratepayers; (2) because the results by way of resuscitation of those constructed in Germany have not justified the cost of their erection and maintenance, and that if they had not already been in existence they would not now, it is said, be established; (3) because relations object to be separated from their dead before burial.

As to expense, it is not unlikely that the unthinking majority would prefer to accept what they may look upon as an infinitesimal risk rather than incur the neccessary outlay. When once, however, the public is aroused to the fact that living burial is a serious and real danger, the expense will no longer be taken into consideration. Tastefully designed mortuaries in all populous districts could be met by a rate of from one farthing to a penny in the pound, and in the smaller or thinly-populated districts groups of parishes could unite in providing such useful institutions. Public bodies might appropriately take this matter up under the powers granted to them by the Local Government Act of 1894. At present, under existing customs, probably ten times the amount required is annually expended in funeral trappings, mourning habiliments, costly wreaths, and ornamental monuments (mainly for the purpose of ostentatious display) that would provide temporary resting-places for the real and apparently dead in every part of the United Kingdom.

The erection of such establishments, where the fact of death in every case could be unequivocally demonstrated before burial or cremation, would remove an ever present and consuming load of anxiety from the hearts of thousands of sensitive souls.

The second objection—namely, that results in resuscitation have not justified their erection, and that such mortuaries are no longer built—is simply untrue. Mortuaries, upon a scale hitherto unattempted, have but recently been erected in Berlin and Munich, and similar establishments are to be erected in Paris, whilst many other towns and cities on the Continent, which have not yet adopted the system, have the matter under grave consideration. We have already quoted instances of resuscitation in them as a proof of their utility, and more cases will be given before concluding this chapter.

We have seen it stated and restated in public journals, and by public men who ought to be more guarded in their utterances, that "there has never been known a single case of resuscitation in a German mortuary." This is clearly denied in the report of the Municipal Council of Paris for 1880, No. 174, p. 84, wherein is published a letter from Herr Ehrhart, Mayor of Munich, May 2, 1880, who says:—"The lengthy period during which these establishments have been utilised, the order which has always prevailed, the manner in which the remains are disposed and adorned, *the resuscitation of some who were believed to be dead*, have all contributed to remove any sentimental objections to these establishments. The bodies are transported to the Leichenhaüser twelve hours after death, without the least opposition upon the part of the relatives."

But the very presence of a system of this description would, in the ordinary course of things, lessen the number of premature interments; for, where the dead remain under public supervision until putrefaction commences, the expert medical official, who is publicly employed to verify the deaths, would be exceedingly cautious ere he granted his certificate, and ordered the body to be removed to the mortuary. There could be no possibility under such conditions of the existence of a scandal similar to that which came to light at an inquest held at Wigan by Mr. S. Brighouse, one of the County Coroners for Lancashire, on December 21, 1902. The Coroner said "the circumstances were, perhaps, the most remarkable he had ever had to disclose to a jury." The child had "died" four times, and the mother had obtained three medical certificates of death on the strength of her own diagnoses!

At the same time, it must be admitted, it is very difficult for an enquirer on the Continent to obtain reliable information with regard to what takes place within the walls of mortuaries, because of the numerous officials and others who are interested in covering up any errors of previous death-certification that may come to light in them. The system in Germany is practically one of police regulation. But, difficult as it may be to ascertain the complete number of cases which, as the result of the excellent mortuary system, have been saved from a horrible death, there have been a sufficient number brought to light to warrant the trite observation made by *The Hospital* on February 27, 1904:—"Even if the risk is as slight as most

authorities contend, there is no reason why it should not be completely removed."

In reply to the third objection, which is one of sentiment, and which we would not wish to underrate, we believe mourners would soon get accustomed to the separation from their dead if the latter were removed to mortuaries where the surroundings were of a pleasing character, and where they could visit the remains as often as they pleased. The possibility that by such means a terrible mistake may be rectified would appeal to the most sensitive; and the poor, who can ill spare the room required for the deposit of a coffin, would, upon the grounds of health and convenience, soon come to value such a system. The writer, in the course of his practice, has on several occasions found, among the very poor, families having meals in tiny rooms in a city slum side by side with a shell containing the corpse of a departed relative.

The Utility of Mortuaries.

Out of the quantity of material which lies before us it is somewhat difficult to select illustrative cases suited to the limited space at command. The following are such as are vouched for by competent authorities:—

Berlin.

"A Berlin apothecary wrote to me lately," says Dr. Lénormand, "in this town to the effect that during an interval of two years and a half ten people stated to be dead had been recalled to life. I shall quote only the following:—

"'SOLDIER OF THE GUARD.

"'In the middle of the night the bell of the vestibule rang violently. The caretaker, who had only entered on duties within a few days, much startled, ran towards the mortuary. As soon as he opened the door he found himself confronted with one of "the corpses" enveloped in his shroud, who had quitted his bier and was making his way out. He was a soldier of the guard believed to be dead, and he was able to join his regiment five days later.'"

FRANKFORT-ON-THE-MAINE.

Dr. Josat said that, during his sojourn in Germany, Herr Schmill, director of the mortuary at Frankfort, related to him a case of apparent death which occurred under his own eyes.

"In the year 1840, a girl of nineteen years died of acute pleuro-pneumonia. Her body, during very hot weather, was exposed in the mortuary for a period of eight days in a state of perfect preservation. Her face retained its colour, the limbs were supple, and the substance of the cornea transparent, whereas in ordinary cases decomposition shows itself on the third day. The parents could not reconcile themselves to have their daughter buried, and found themselves much troubled. Finally, on the ninth day, the supposed dead suddenly awoke, without any premonitory indications of life."

BELGIUM.

M. Gaubert, a very painstaking authority, in "Les Chambres Mortuaires d'Attente," says:—

"There was a case at Brussels in January, 1867, of a person who returned to life just as the bearers arrived at the mortuary.

"'A workman of the suburbs, employed by a firm of carriers, fell ill, and in a few days died. This suddenness of the death caused doubts as to its reality, and after the usual delay he was

taken to the mortuary connected with the cemetery. The body was left for a few days' observation. As soon as they arrived a noise escaped from the coffin, and arrested the attention of the people present. At once they hastened towards the coffin, and tried to restore him, and in a short time he came to life. The same evening he was able to return to his home. On the following day he went himself to the authorities to annul the record of his supposed death.'" (P. 182.)

M. Gaubert continues:—"We have collected in Germany fourteen cases of apparent death followed by return to life in mortuaries, in spite of all that has been done for the prevention of such occurrences." (P. 182.)

Cassel.

Dr. E. Bouchut, in "Signes de la Mort," third edition, p. 50, writes:—

"An apothecary's assistant had an attack of syncope, which continued for eight days, when he was apparently dead, and was removed to the mortuary of the Military Hospital, Cassel, where he was covered with a coarse wrapper and left amongst the dead. The following night he awoke from his lethargy, and, on recognising the horrible place where he was, dragged himself to the door and kicked against it. The noise was heard by the sentinel, aid arrived, and the patient was put in a warm bed, where he recovered."

Dr. Bouchut says that if he had been swathed in tight bandages his efforts at release would have been futile, and he would have been buried alive.

India.

Dr. Roger S. Chew, of Calcutta, has forwarded the following cases to the author as the results of his own personal experience:—

"A sowar—*i.e.*, native trooper—of the 7th regiment of cavalry, in 1878, carrying despatches at Nowshera, was thrown from his horse, and, falling with his head against a sharp stone in the road, rolled on his back, in which position he was found some six or seven hours after, and conveyed to the mortuary of the European Depôt Hospital pending removal to the 'lines' of his own corps. There was very little hæmorrhage, and the stone was still wedged in between the temporo-parietal suture. Cardiac sounds and respiratory murmurs could not be detected. The limbs were perfectly rigid, and there was a good deal of cadaveric ecchymosis to be distinctly seen. Nothing would have convinced anyone that the sowar was still alive, and Surgeons-Major Hunter, Gibson, and Briggs, Apothecary S. Pollock, Assistant-Surgeon J. Lewis, and myself, *verily* believed he was stone-dead. As 'cause of death' is what the army is exceedingly particular about, Surgeon-Major Hunter removed the impacted stone and lifted out portions of the fractured bone (prior to holding a proper *post-mortem*), when to the surprise of all of us 'the corpse' deliberately closed its eyes (which were staring open when the body was first brought in), and there was a slight serous hæmorrhage. On noticing this, the sowar's head was trephined—no chloroform or other anæsthetic being used—some more fragments of bone and a large blood-clot that pressed on the brain were removed, and, as the sowar repeatedly flinched under this operation, a stimulant was poured down his throat, and he was removed to his regimental hospital, from which he was discharged 'well' some six months and a half later. After this he did good service in the Afghan and Egyptian campaigns."

"Sergeant J. Clements Twining, of H.M.'s 109th regiment of British infantry, located at Dinapoor in 1876, was brought in an unconscious state to the hospital, supposed to be suffering from *coup de soleil*. Everything that could be done was ineffectually tried to rouse him from coma, and he was removed to the dead-house to wait *post-mortem* next morning. At two a.m. the sentry on the dead-house came rushing down to the dispensary (about four hundred and fifty yards off) declaring that he had seen and heard a ghost in the dead-house, to which myself and the compounder and dresser on duty at once proceeded, to find that Clements Twining, who was now partially conscious, was lying on

the dead-house flags groaning most piteously—he had rolled off the table on to the floor. He returned to health, and in 1877 accompanied his regiment to England, where I met him at Woolwich in 1883, and he asked me to corroborate his story of 'returning to life' to certain of his acquaintances who had refused to believe him."

HAMBURG.

A correspondent signing himself "T. E. N.," in *To-Day*, October 12, 1895, says :—

"When acting as special correspondent to the *Evening Herald* in Hamburg during the cholera plague, I met a gentleman who had been passed for dead and placed in the mortuary to await burial. When the porters entered some hours later to remove the hundred or so bodies, they found this gentleman sitting up in great pain, and very much frightened. He was placed in a ward, and recovered.

"About the same time a little girl came to life actually at the graveside. She had been brought in one of several four-horse vans that conveyed bodies for interment in the Ohlsdorff graveyard. Fortunately for her, she had not been placed in a coffin, the exigencies of the time rendering it impossible to provide caskets for the dead. When the disease began to die out, the people found time to ask—'Can it be possible that life remains in any of the bodies buried?' That the doctors in the latter days cut the ulnar arteries of all subjects before passing them for dead is full of significance."

UNITED STATES OF AMERICA.

The *Undertakers' Review*, January 22, 1894, reports that :—

"Lena Fellows, aged twenty-two years, a servant in the employ of A. R. Knox, of Buffalo, fell dead, as was thought, while at work on December 8. The remains were taken to the morgue in a coffin, but next morning when Morgue-Keeper M'Shane began to lift the supposed corpse into the refrigerator he found that the woman was alive. It was a case of catalepsy."

Dr. J. M. Duncan, of Kansas City, U.S.A., in an instructive article in the *Medical Brief*, August, 1897, relates the following remarkable experiences:—

"In 1865 I was on duty in a United States field hospital. On May 15 a soldier in one of the hospitals died. His body was bathed, prepared, and carried to the mortuary. At daybreak next morning he was found sitting upright, was taken back to the ward, and made a good recovery. This soldier said that while the nurses were dressing him he tried to kick them, and in every way tried to make them know he was not dead; but could not move. All night, as he lay in the dead-house, he kept trying to break the spell, realising fully that he must get a move on him or be buried alive next day. He distinctly heard everything as usual, could see things before him, and his sense of feeling was perfectly normal. As twilight began to appear in the east, he was feeling chilly and felt like sneezing, in the effort of which he caught his breath, and raised himself up."

London.

The following incident caused a great deal of comment at the time, and suggested to many that other cases of suspended animation might have a less fortunate issue:—

"Ernest Wicks, a boy two years old, was found lying on the grass in Regent's Park apparently dead, and resuscitated in St. Marylebone Mortuary (after being laid out on a slab as dead) in September, 1895, by the keeper, Mr. Ellis, assisted by Mrs. Ellis. When the doctor arrived, the child was breathing freely, though still insensible. The child was taken to the Middlesex Hospital, and was reported by the surgeon to be recovering from a fit."

A correspondent writes us as follows, on February 27, 1903:—

"The husband of an old servant of ours underwent an operation in the Brompton Hospital. He was supposed to have died,

and was therefore taken to the mortuary. Fortunately for him, he gave signs of life before being buried, and is, I believe, alive now."

LILLE.

The *Progrès du Nord*, April 2, 1894, reports:—

"M. Vangiesen, aged eighty-one years, awakened from supposed death on the flagstones of the mortuary at the Charité Hospital at Lille."

H. L. Kerthomas, in "Dernières Considérations sur les Inhumations Précipitées," Lille, 1852, p. 17, relates that:—

"At a hospital in Liege two house-surgeons were at the 'Salles des décadés' in pursuance of their anatomical studies when, hearing at one side of them a noise like stifled breathing, great was their fear! Still, they coolly finished their examination, and then discovered the supposed corpse moving convulsively amongst his dead companions; but, thanks to efficient help, he was completely restored to health." (The above occurred in 1847.)

Enough evidence has been given to justify our contention that upon every ground—moral, social, sanitarian, humane, and economical—the British nation should seriously take this matter up, and see to it that Parliament be urged to pass, without further delay, a measure which shall ordain that waiting mortuaries of the character we have described be erected in every sanitary district throughout the kingdom.

CHAPTER XXIII.

CONCLUSION.

It has been our endeavour to present in a concise form the salient facts connected with the important subject which forms the title of this work. It would have been easy to fill a much larger volume than this with reports of authentic cases of premature burial and narrow escapes from such terrible mischances, and with more detailed results of the authors' researches on the subject in various parts of Europe and America, as well as in the East. The cases adduced to illustrate the text are, however, presented as types of hundreds of others obtainable from equally reputable sources, and to be found in the works of various trustworthy authorities, the titles of which can be seen in the Bibliography at the end of this volume.

We herewith append a summary of the chief points we have presented, and which we have sought to substantiate as far as the limited space will allow:—

(1) *Death - Counterfeits.* — That trance, catalepsy, and other forms of death-counterfeit, arising from exhausting illnesses and diseases, from loss of blood and various nervous derangements, from extreme conditions of temperature, drugs, drowning, still-birth, etc., are of such mysterious and deceptive character that we are led to the conclusion that they may easily be mistaken for real death.

(2) *Tragic Results.*—That mistakes of this nature have occurred in numerous instances. That not only

have persons been buried alive, as proved by subsequent exhumations, but that in many instances, in this and other countries, many have revived after having been supposed to be dead by their relatives and attendant physicians.

(3) *Justifiable Fear.*—That a natural dread exists in the minds of many persons lest they should fall victims to such a terrible mistake. That this has been evidenced by the numerous directions laid down in the wills of perfectly sane and even of notable persons, which provide against any possible resuscitation in the hopeless tomb. That this fear has been likewise manifested by the offer of substantial prizes by scientists and by learned societies for the most approved method of diagnosing between latent life and actual death. That the dread has been further shown by the several inventions, such as safety coffins and safety graves, which have been seized upon by the public in the hope of protecting them from the most awful of all deaths.

(4) *Legal Hindrances.*—That the formalities associated with the disinterment of a body, or even the opening of a coffin, whether in England or abroad, and the slavish acceptance of and obedience to medical certification given under exceedingly lax conditions, are fraught with dangerous possibilities to the living and to the apparently dead.

(5) *Special Risks.*—That the risk of premature burial is especially serious in France, in Spain and Portugal, in the west of Ireland, in both European

and Asiatic Turkey, and in India; also among the Jews, where both the Jewish law and ancient custom enjoin burial within a few hours of death, and for similar reasons in all oriental countries, and in the Southern States of North America.

(6) *Illusory Nature of Death Signs.*—That the various signs which are supposed to indicate death, such as the cessation of respiration and of cardiac action, a pale, waxy, and death-like appearance, a stiffening of the limbs, or *rigor mortis*, insensibility to cutaneous excitation, the departure of heat from the body, are singly and collectively illusory; the only safe and infallible test of dissolution being the manifestation of putrefaction in the abdomen.

(7) *Death-Certificates.*—That the present method of granting a death-certificate in this country is most unsatisfactory, seeing that the medical attendant is relieved from the necessity of viewing the supposed dead before giving it, and that every year some ten thousand death-certificates are accepted by the Registrar-General in which the cause of death is not even stated. If the legislature enacted that the certifying medical man shall in every instance examine the body of the alleged dead person, and shall state upon his certificate the grounds upon which he bases his judgment, as the result of such personal examination (for which a small fee, as in the case of notification, might be paid by the local authority), a greater safeguard of life would be ensured than is possible under the lax system which at the present time is allowed by law.

(8) *Definite Medical Training.*—That there should be systematic medical instruction (which does not exist at the present time) during the course of training at our medical schools and colleges upon the phenomena of trance, catalepsy, syncope, and other forms of suspended animation; and that knowledge of definite tests necessary to the prevention of premature burial be demanded in all examinations for medical diplomas and degrees.

(9) *A Real Danger.*—That, in view of the numerous authentic instances of premature coffinment, premature burial, and narrow escapes, which have been collected together, we are forced to the conclusion that these instances can but represent large numbers of other cases which have never been, and, by the very nature of the circumstances, could never be, brought to light.

(10) *Other Risks.*—That even embalming, dissecting, and cremation are each and all accompanied by risks to life unless the precaution is first taken of ascertaining that life has really ceased to exist.

(11) *The Only Real Safeguard.*—That no evidence of death is really satisfactory except that which is supplied by putrefaction, usually evidenced by the change of colour in the abdomen. That to ensure this safeguard waiting mortuaries should be erected by every sanitary authority in the kingdom at public expense, such as are provided at Munich, Weimar, Stuttgart, and other German cities, furnished with every appliance for resuscitation, watched by qualified attendants, and in telephonic communication with a

medical superintendent, who shall be authorised to grant the removal of the body to the cemetery only when the fact of death has been unequivocally established by the sign of decomposition.

(12) *An Appeal.*—If the foregoing conclusions are established, and we believe such to be the case, the need for immediate action is urgent and imperative, and the prompt intervention of Parliament should be at once invoked. May we hope for the cordial co-operation of all classes and all sections on a question on which the whole community have a deep and vital interest, and on which procrastination will certainly be fatal to some of its members? It is not an academic question, but one of the gravest practical character, the earnest consideration and treatment of which cannot be neglected with impunity.

APPENDICES.

APPENDIX A.

HISTORICAL CASES OF RESTORATION FROM APPARENT DEATH.

From the time of Kornmann, Terilli, and Zacchia (see Bibliography, seventeenth century), certain notable instances have been cited from old authors of restoration from apparent death with a good deal of uniformity in essays or theses on this subject. One of the most convenient (to English readers) of these compilations is to be found in an anonymous essay, "The Uncertainty of the Signs of Death," Dublin, 1748 (printed by George Faulkner), from which the following extracts are taken *verbatim* :—

Plutarch informs us that a certain person fell from an eminence but did not show the least appearance of any wound; for, three days after, he suddenly resumed his strength, and returned to life as his friends were conveying him to the grave.

Asclepiades, a celebrated physician, on his return from his country seat met a large company conveying a corpse to the grave. A principle of curiosity induced him to ask the name of the deceased person; but grief and sorrow reigned so universally that no one returned him answer; upon which, approaching the corpse, he found the whole of it rubbed over with perfumes, and the mouth moistened with precious balm, according to the custom of the Greeks; then carefully feeling every part, and discovering latent signs of life, he forthwith affirmed that the person was not dead, and the person was saved.—Celsus ii., 6, "De re Medica."

In the tenth book of Plato's "Republic" is related the story of one Er, an Armenian, who was slain in battle. Ten days after, when the surviving soldiers came, with a view to inter the dead, they found all the bodies corrupted except his; for which reason they conveyed him to his own house in order to inter him in the usual manner. But two

days after, to the great surprise of all present, he returned to life when laid on the funeral pile. Quenstedt remarks upon this case, which he took from Kornmann's treatise "De Miraculis Mortuorum," "that the soul sometimes remains in the body when the senses are so fettered, and, as it were, locked up, that it is hard to determine whether a person is dead or alive." Pliny in his "Natural History," book vii., chap. 52, which treats of *those who have returned to life when they were about to be laid in the grave*, tells us that Acilius Aviola, a man of so considerable distinction that he had formerly been honoured with the consulship, returned to life when he was upon the funeral pile; but as he could not be rescued from the violence of the flames he was burnt alive. The like misfortune also happened to Lucius Lamia, who had been praetor. These two shocking accidents are also related by Valerius Maximus. Celius Tubero had a happier fate than his two fellow-citizens, since, according to Pliny, he discovered the signs of life before it was too late. His state, however, was far from eligible, since, being laid on the funeral pile, he stood a fair chance of being exposed to the like misfortune. Pliny, from the testimony of Varro, adds that when a distribution of land was making at Capua, a certain man, when carried a considerable way from his own house in order to be interred, returned home on foot. The like surprising accident also happened at Aquinum. The last instance of this nature related by the author occurred at Rome, and Pliny must, no doubt, have been intimately acquainted with all its most minute circumstances, since the person was one Cerfidius, the husband of his mother's sister, who returned to life after an agreement had been made for his funeral with the undertaker, who was probably much disappointed when he found him alive and in good health.

These examples drawn from Roman history greatly contribute to establish the uncertainty of the signs of death, and ought to render us very cautious with respect to interments.

Greece and Italy are not the only theatres in which such tragical events have been acted, since other countries of Europe also furnish us with instances of a like nature. Thus, Maximilian Misson, in his "Voyage Through Italy," tome i., letter 5, tells us—

"That the number of persons who have been interred as dead, when they were really alive, is very great in comparison with those who have been happily rescued from their graves; for, in the town of Cologne, Archbishop Geron—according to Albertus Krantzïus—was interred alive, and died for want of seasonable releasement."

It is also certain that in the same town the like misfortune happened to Johannes Duns Scotus, who in his grave tore his hands and wounded his head. Misson also relates the following:—

"Some years ago the wife of one Mr. Mervache, a goldsmith of Poictiers, being buried with some rings on her fingers, as she had desired when dying, a poor man of the neighbourhood, being apprised of that circumstance, next night opened the grave in order to make himself master of the rings, but as he could not pull them off without some violence, he in the attempt waked the woman, who spoke distinctly, and complained of the injury done her. Upon this, the robber made his escape. The woman, now roused from an apoplectic fit, rose from her coffin, returned to her own house, and in a few days recovered a perfect state of health."

What induced Misson to relate these histories was a certain piece of painting preserved in the church of the Holy Apostles at Cologne, in order to keep up the memory of a certain accident, which that traveller relates in the following manner:—

"In the year 1571, the wife of one of the magistrates of Cologne being interred with a valuable ring on one of her fingers, the grave-digger next night opened the grave in order to take it off, but we may readily suppose that he was in no small consternation when the supposed dead body squeezed his hand, and laid fast hold of him, in order to get out of her coffin. The thief, however, disengaging himself, made his escape with all expedition; and the lady, disentangling herself in the best manner she could, went home and knocked at her own door, where, after shivering in her shroud, after some delay she was admitted by the terror-stricken servants; and, being warmed and treated in a proper manner, completely recovered."

Simon Goubart, in his admirable and memorable histories, printed at Geneva in 1628, relates the following accident:—"A lady, whose name was Reichmuth Adoloh, was supposed to fall a victim to a pestilence, which raged with such impetuous fury as to cut off most of the inhabitants of Cologne. Soon after, however, she not only recovered her health, but also brought into the world three sons, who, in process of time, were advanced to livings in the Church."

"The town of Dijon, in Burgundy, was, in the year 1558, afflicted with a violent plague, which cut off the inhabitants so fast that there was not time for each dead person to have a separate grave; for which reason large pits were made and filled with as many bodies as they could contain. In this deplorable conjuncture, Mrs. Nicole Tentillet shared the common fate, and after labouring under the disorder for some days, fell

into a syncope so profound that she was taken for dead, and accordingly buried in a pit with the other dead bodies. The next morning after her interment she returned to life, and made the strongest efforts to get out, but was held down by the weight of the bodies with which she was covered. She remained in this wretched condition for four days, when the grave-diggers took her out and carried her to her own house, where she recovered perfectly." Following this case, that of a labouring man of Courcelles, near Neuchâtel, is narrated. He fell into so profound syncope that he was taken for dead; but the persons who were putting him into his grave, without a coffin, perceived some motion in his shoulders, for which reason they carried him to his own home, where he perfectly recovered. This accident laid the foundation for his being called the ghost of Courcelles.

"A lawyer of Vesoul, a town of Franche-Comté, near Besançon, so carefully concealed a lethargy, to which he was subject, that nobody knew anything of his disorder, though the paroxysms returned very frequently. The motive which principally induced him to this secrecy was the dread of losing a lady to whom he was just about to be married. Being afraid, however, lest some paroxysm should prove fatal to him, he communicated his case to the sheriff of the town, who, by virtue of his office, was obliged to take care of him if such a misfortune should happen. The marriage was concluded, and the lawyer for a considerable time enjoyed a perfect state of health, but at last was seized with so violent a paroxysm of the disease that his lady, to whom he had not revealed the secret, not doubting his death, ordered him to be put in his coffin. The sheriff, though absent when the paroxysm seized him, luckily returned in time to preserve him; for he ordered the interment to be delayed, and the lawyer, returning to life, survived the accident sixteen years."

Another case is that of a certain person who was conveyed to the church in order to be interred, but one of his friends sprinkling a large quantity of holy water on his face, which was covered, he not only returned to life, but also resumed a perfect state of health.

This writer subjoins other histories of persons who, being interred alive, have expired in their graves and tombs, as has afterwards been discovered by various marks made, not only in their sepulchres, but also in their own bodies. He in a particular manner mentions a young lady of Auxbourg, who, falling into a syncope, in consequence of a suffocation of the matrix, was buried in a deep vault, without being covered with earth, because her friends thought it sufficient to have the

vault carefully shut up. Some years after, however, one of the family happened to die; the vault was opened, and the body of the young lady found on the stairs at its entry, without any fingers on the right hand.

It is recorded in "Tr. de Aere et Alim. defect.," cap. vii., that a certain woman was hanged, and in all appearances was dead, who was nevertheless restored to life by a physician accidentally coming in and ordering a plentiful administration of sal ammoniac.

Another case of hanging is the story of Anne Green, executed at Oxford, December 14, 1650. She was hanged by the neck for half an hour, some of her friends thumping her on the breast, others hanging with all their weight upon her legs, and then pulling her down again with a sudden jerk, thereby the sooner to despatch her out of her pain. After she was in her coffin, being observed to breathe, a lusty fellow stamped with all his force on her breast and stomach to put her out of pain. But by the assistance of Dr. Petty, Dr. Willis, Dr. Bathurst, and Dr. Clark, she was again brought to life.

Kornmann, in his treatise "De Miraculis Mortuorum," relates the following history:—"Saint Augustine, from Saint Cirille, informs us that a cardinal of the name of Andrew, having died in Rome in the presence of several bystanders, was next day conveyed to the church, where the Pope and a body of the clergy attended service in order to do honour to his memory. But to their great surprise, after some groans, he recovered his life and senses. This event was at the time looked upon as a miracle, and ascribed to Saint Jerome, to whom the cardinal was greatly attached."

The following account seems more to resemble a miracle, though we do not find that it was looked upon as such:—"Gocellinus, a young man, and nephew to one of the Archbishops of Cologne, falling into the Rhine, was not found for fifteen days after, but was discovered to be alive as he lay before the shrine of Saint Guibert."

Persons curious or incredulous upon the dangers of precipitate burials may, for their satisfaction, have recourse to the medical observations of Forestus; those of Amatus Lusitanus; the chirurgical observations of William Fabri; the treatise of Levinus Lemnius on the secret miracles of Nature; the observations of Schenkins; the medico-legal questions of Paul Zacchias; Albertinus Bottonus's treatise of the Disorders of Women; Terilli's treatise on the Causes of Sudden Death; Lancisi's treatise Concerning Deaths, and Kornmann's treatise on the Miracles of the Dead. These authors furnish us with a great variety of the most palpable and flagrant instances of the uncertainty of the signs of death.

Physicians of the earlier ages knew that there were disorders which so locked up or destroyed the external senses that the patients labouring under them appeared to be dead. According to Mr. Le Clerc, in his "History of Medicine," Diogenes Laertius informs us "that Empedocles was particularly admired for curing a woman supposed to be dead, though that philosopher frankly acknowledged that her disorder was only a suffocation of the matrix, and affirmed that the patient might live in that state (the absence of respiration) for thirty days."

Mr. Le Clerc, in the work already quoted, tells us that "Heraclides of Pontus wrote a book concerning the causes of diseases, in which he affirmed that in certain disorders a patient is without respiration for thirty days, and that they appeared dead in every respect, except corruption of the body."

To these authorities we may add that of Pliny, who, after mentioning the lamentable fate of Aviola and Lamia, affirms—"That such is the condition of humanity, and so uncertain the judgment men are capable of forming of things, that even death itself is not to be trusted to."

Colerus, in "Oeconom," part vi., lib. xviii., cap. 113, observes—"That a person as yet not really dead may, for a long time, remain apparently in that state without discovering the least signs of life; and this has happened in the times of the plague, when a great many persons interred have returned to life in their graves." Authors also inform us that the like accident frequently befalls women seized with a suffocation of the matrix (hysteria).

Forestus, in "Obs. Med.," l. xvii., obs. 9, informs us—"That drowned persons have returned to life after remaining forty-eight hours in the water; and sometimes women, buried during a paroxysm of the hysteric passion, have returned to life in their graves; for which reason it is forbidden in some countries to bury the dead sooner than seventy-two hours after death." This precaution of delaying the interment of persons thought to be dead is of a very ancient date, since Plato ordered the bodies of the dead to be kept till the third day, *in order to be satisfied of the reality of death.*

The burial customs of the ancients often included steps that were taken as a precaution against mistaking the living for the dead. Indeed the fear of such an accident seems to have always been entertained as a thing liable to occur in every case of seeming death. The embalming process employed by the Egyptians was a surgical test of the kind. The abdomen was first opened in order to remove the intestines, and some startling experiences must have been had in consequence of the

incisions required for this operation, because it was customary for the friends and relatives of the deceased to throw stones at the persons employed in embalming as soon as the work was over, owing to the horror with which they were struck upon witnessing what must have been at times a cruel proceeding.

The funeral ceremonies used in the Caribbee Islands are, in a great measure, conformable to reason. They wash the body, wrap it up in a cloth, and then begin a series of lamentations and discourses calculated to recall the deceased to life, by naming all the pleasures and privileges he has enjoyed in the world, saying over and over again, "How comes it, then, that you have died?" When the lamentations are over, they place the body on a small seat, in a grave about four or five feet deep, and for ten days present aliments to it, entreating it to eat. Then, convinced that it would neither eat nor return to life, they, for its obstinacy, throw the victuals on its head, and cover up the grave. It is evident from the practices of this people that they wait so long before they cover the body with earth because they have had instances of persons recalled to life by these measures.

Lamentations of a similar kind were employed by the Jews and Romans, as well as by the ancient Prussians and the inhabitants of Servia, founded doubtless upon similar experiences.

The Thracians, according to Herodotus, kept their dead for only three days, at the end of which time they offered up sacrifices of all kinds, and, after bidding their last adieu to the deceased, either burned or interred their bodies.

According to Quenstedt, the ancient Russians laid the body of the dead person naked on a table, and washed it for an hour with warm water. Then they put it into a bier, which was set in the most public room in the house. On the third day they conveyed it to the place of interment, where, the bier being opened, the women embraced the body with great lamentations. Then the singers spent an hour in shouting and making a noise in order to recall it to life; after which it was let down into the grave and covered with earth. So that this people used the test of warm water, that of cries, and a reasonable delay, before they proceeded to the interment.

In the laws and history of the Jews there is but one regulation with respect to interment (in the twenty-first chapter of Deuteronomy), where the Jewish legislator orders persons hanged to be buried the same day. From this one is led to infer that the funeral ceremonies, as handed down from Adam, were otherwise perfect and unexceptionable. The

bier used by the Jews, on which the body was laid, was not shut at the top, as our coffins are, as is obvious from the resurrection of the widow's son of Nain, recorded in the seventh chapter of Luke, where these words occur:—"And he came and touched the bier, and they that bare him stood still. And he said, Young man, I say unto thee, Arise; and he that was dead sat up and began to speak."

Gierus and Calmet inform us that the body, before its interment, lay for some days in the porch or dining-room of the house. According to Maretus, it was probably during this time that great lamentations were made, in which the name of the deceased was intermixed with mournful cries and groans.

Mr. Boyer, member of the Faculty at Paris, observes that such lamentations are still used by the Eastern Jews, and even by the Greeks who embrace the articles of the Greek Church. These people hire women to weep and dance by turns round the body of the dead person, whom they interrogate with respect to the reasons they had for dying.

Lanzoni, a physician of Ferrara, informs us that "when any person among the Romans died, his nearest relatives closed his mouth and eyes, and when they saw him ready to expire they caught his last words and sighs. Then calling him aloud three times by his name, they bade him an eternal adieu." This ceremony of calling the name of the dying person was called Conclamation, a custom that dates prior to the foundation of Rome, and was only abolished with paganism.

Propertius acquaints us with the effect they expected from the first Conclamation—since there were several of them. He introduces Cynthia as saying, "Nobody called me by my name at the time my eyes were closing, and I should have enjoyed an additional day if you had recalled me to life."

Conclamations were made also by trumpets and horns, blown upon the head, into the ears, and upon the neck and chest, so as to penetrate all the cavities of the body, into which, as the ancients imagined, the soul might possibly make her retreat.

Quenstedt and Casper Barthius, in "Advers.," lib. xxxvii., ch. 17, tells us that it was customary among the ancients to wash the bodies of their dead in warm water before they burned them, "that the heat of the water might rouse the languid principle of life which might possibly be left in the body."

By warm water we are to understand boiling water, as is obvious from the copious steam arising from the vessel represented in pieces of statuary in such instances: as also from the Sixth Book of Virgil's

"Æneid"—"Some of the companions of Æneas, with boiling water taken from brazen vessels, wash the dead body, and then anoint it."

"A correspondent of the late Dr. Hawes assures us that there was then living in Hertfordshire a lady of an ancient and honourable family whose mother was brought to life after interment by the attempt of a thief to steal a valuable ring from her finger. (See Reports of the Royal Humane Society for 1787-88-89, p. 77.) Whether it was the same or not I cannot say, but Lady Dryden, who resided in the southern part of Northamptonshire, in consequence of some such event having occurred in her family, expressly directed in her will that her body should have the throat cut across previous to interment; and to secure this bequeathed fifty pounds to an eminent physician, who actually performed it."—Dr. Curry's "Observations on Apparent Death," p. 106.

Dr. Elliotson refers to a case of a female who was pronounced to be dead. Her pulse could not be felt, and she was put into a coffin; and as the coffin lid was being closed they observed a sweat break out, and thus saw that she was alive. She recovered completely, and then stated that she had been unable to give any signs of life whatever; that she was conscious of all that was going on around her; that she heard everything; and that, when she found the coffin lid about to be put on, the agony was dreadful beyond all description, so that it produced the sweat seen by the attendants.

Death-trance.

In two cases related by the late Mr. Braid, of Manchester, "the patients remained in the horrible condition of hearing various remarks about their death and interment. All this they heard distinctly without having the power of giving any indication that they were alive, until some accidental abrupt impression aroused them from their lethargy, and rescued them from their perilous situation. On one of these occasions, what most intensely affected the feelings of the entranced subject, as she afterwards communicated to my informant, was hearing a little sister, who came into the room where she was laid out for dead, exulting in the prospect, in consequence of her death, of getting possession of a necklace of the deceased." In another instance, the patient remained in a cataleptic condition for fourteen days. During this period the visible signs of vitality were a slight degree of animal heat and appearance of moisture when a mirror was held close to her face. But although she

had no voluntary power to give indication by word or gesture, nevertheless she heard and understood all that was said and proposed to be done, and suffered the most exquisite torture from various tests applied to her. . . . There is hardly a more interesting chapter in the records of medical literature than the history of well-authenticated cases of profound lethargy or death-trance. Most of the reported cases in which persons in a state of trance are stated to have been consigned to the horrors of a living burial may possibly be apocryphal. Still, on the other hand, there are unquestionably too many well-substantiated instances of the actual occurrence of this calamity, the horrors of which no effort of the imagination can exaggerate, and for the prevention of which no pains can be excessive and no precaution superfluous.

The following is taken from "Memorials of the Family of Scott, of Scott's Hall, in the County of Kent, with an Appendix of Illustrative Documents," by James Renat Scott, F. S. A., London, 1876, page 225:—

"Robert Scott, Esq., tenth (but sixth surviving) son of Sir Thomas Scott, of Scott's Hall, Knight, married Priscilla, one of the daughters of Sir Thomas Honywood, of Elmsmere, Knight, by whom he had nine children. Remarkable accidents happened to the said Robert Scott and Priscilla, his wife, before their marriage, at their marriage, and after their marriage, before they had children. At their marriage, which was in or about the year 1610, the said Robert Scott having forgot his wedding ring when they were to be married, the said Priscilla was married with a ring with death's head upon it.

"Within a short time after they were married the said Robert Scott, and Priscilla, his wife, sojourning with Sir Edward at Austenhanger, the said Robert Scott, about Bartholomewtide, fell sick of a desperate malignant fever, and was given over for dead by all, insomuch as that he was laid forth, the pillows pulled from under him, the curtains drawn, and the chamber windows set open, and ministers spoke to to preach the funeral service, and a book called for his funeral that was to have been kept at Scott's Hall, where Sir John Scott, the eldest brother, then lived. At night he was watched with by his own servant, named Robins, and another servant in the house, and about midnight they sitting together by the fire in the chamber, the said Robins said to the other, 'Methinks my master should not be dead, I will go and try,' and presently starting up went to the bedside where his master laid, and hallooed in his ear, and laid a feather to his nostrils, and perceived that he breathed, upon which he called them up in the house,

and they warmed clothes and rubbed him, and brought him to life again. He lived afterwards to be upwards of seventy-two years of age, and to have nine children.

"Another remarkable passage was that his wife, Priscilla, being then very sick also, they told her that he was dead. She answered that she did not believe that God would part them so soon. The said Priscilla, when born, was laid for dead, no one minding her, but all the women went to help her mother, who was then like to die after her delivery; but at last an old woman, taking the child in her arms, carried it downstairs, and using means, brought her to life. The other women, missing the child, and hearing the old woman had carried her down to get life in her, laughed at her, as thinking it impossible to bring the child to life; but in a little time she brought it into the chamber, to the amazement of them all, and said she might live to be an old woman; and so she did to the age of fifty-two, and had nine children."

The following cases are from Mrs. Crowe's "Night Side of Nature," pp. 133-136:—

"Dr. Burns mentions a girl at Canton who lay in a trance, hearing every word that was said around her, but utterly unable to move a finger. She tried to cry out but could not, and supposed that she was really dead. The horror of finding that she was about to be buried at length caused a perspiration to appear on her skin, and she finally revived. She described that she felt that her soul had no power to act upon her body, and that it seemed to be *in her body and out of it at the same time.*"

"Lady Fanshawe related the case of her mother, who, being sick of a fever, her friends and servants thought her deceased, and she lay in that state for two days and a night; but Mr. Winslow, coming to comfort my father, went into my mother's room, and looking earnestly into her face, said, 'She was so handsome, and looked so lovely, that he could not think her dead,' and suddenly taking a lancet out of his pocket he cut the sole of her foot, which bled: upon this he immediately caused her to be removed to the bed again, and she opened her eyes, after rubbing and other restorative means, and came to life."

"On the 10th of January, 1717, Mr. John Gardner, a minister at Elgin, fell into a trance, and being to all appearances dead, he was put into a coffin, and on the second day was carried to the grave. But fortunately a noise being heard, the coffin was opened, and he was found alive and taken home again, where, according to the record, 'he related many strange and amazing things which he had seen in the othe world.'"

Under the head of "Suspended Animation: Cases of Recovery, etc.," the Report of the Royal Humane Society for 1816-17, pp. 48-50, copies the following:—"A young lady, an attendant on the Princess of ——, after having been confined to her bed for a great length of time with a violent disorder, was at last, to all appearances, deprived of life. Her lips were quite pale, her face resembled the countenance of a dead person, and her body became cold.

"She was removed from the room in which she died, was laid in a coffin, and the day of her funeral was fixed on. The day arrived, and, according to the custom of the country, funeral songs and hymns were sung before the door. Just as they were about to nail on the lid of the coffin a slight perspiration was observed to appear on the surface of her body. It grew greater every moment, and at last a kind of convulsive motion was observed in the hands and feet of the corpse. A few moments after, during which time fresh signs of returning life appeared, she at once opened her eyes and uttered a pitiable shriek. Physicians were quickly procured, and in the course of a few days she was considerably restored, and is probably alive at this day."

The description which she herself gave of her situation is extremely remarkable, and forms a curious and authentic addition to psychology:—

"She said it seemed to her, as if in a dream, that she was really dead; yet she was perfectly conscious of all that happened around her in this dreadful state. She distinctly heard her friends speaking, and lamenting her death at the side of her coffin. She felt them pull on the dead-clothes and lay her in it. This feeling produced a mental anxiety which was indescribable. She tried to cry, but her soul was without power and could not act on her body. She had the contradictory feeling as if she were in her body and yet not in it at one and the same time. It was equally impossible for her to stretch out her arms, or to open her eyes, or to cry. The internal anguish of her mind was, however, at its utmost height when the funeral hymns began to be sung and when the lid of the coffin was about to be nailed on. The thought that she was to be buried alive was the first one which gave activity to her soul, and caused it to operate on her corporeal frame."

Related by Dr. Herz in the "Psychological Magazine," and transcribed by Sir Alexander Crichton in the introduction to his essay on "Mental Derangement." (2 vols., Lond., 1798.)

"One of the most frightful cases extant is that of Dr. Walker, of Dublin, who had so strong a presentiment on this subject that he had

actually written a treatise against the Irish custom of hasty burial. He himself subsequently died, as was believed, of a fever. His decease took place in the night, and on the following day he was interred. At this time Mrs. Bellamy, the once-celebrated actress, was in Ireland; and as she had promised him, in the course of conversation, that she would take care he should not be laid in the earth till unequivocal signs of dissolution had appeared, she no sooner heard of what had happened than she took measures to have the grave reopened; but it was unfortunately too late. Dr. Walker had evidently revived, and had turned upon his side; but life was quite extinct."

Mr. Horace Welby, in a chapter on "Premature Interment," says that "the Rev. Owen Manning, the historian of Surrey, during his residence at Cambridge University caught small-pox, and was reduced by the disorder to a state of insensibility and apparent death. The body was laid out and preparations were made for the funeral, when Mr. Manning's father, going into the chamber to take a last look at his son, raised the imagined corpse from its recumbent position, saying, 'I will give my poor boy another chance,' upon which signs of vitality were apparent. He was therefore removed by his friend and fellow-student, Dr. Heberden, and ultimately restored to health."—"The Mysteries of Life and Death," pp. 115, 116.

A most conspicuous and interesting monument in St. Giles's Church, Cripplegate, London (where Cromwell was married and John Milton buried), is associated with a remarkable case of trance or catalepsy. In the chancel is a striking sculptured figure in memory of Constance Whitney, a lady of remarkable gifts, whose rare excellences are fully described in the tablet. She is represented as rising from her coffin. Welby, at p. 116, relates the story that she had been buried while in a state of suspended animation, but was restored to life through the cupidity of the sexton, which induced him to disinter the body to obtain possession of a valuable ring left upon her finger, which he concluded could be of no use to the wearer. A study of the facts of premature burial shows that the rifling of tombs and coffins to obtain valuables has in other instances revealed similar tragic occurrences.

The often-cited case of Mrs. Goodman, one of those recalled to life by the sexton's attempt to remove a ring from the finger, is thus related in the "History of Bandon," by George Bennett:—

Hannah, wife of Rev. Richard Goodman, vicar of Ballymodan, Bandon, from 1692 to 1737, fell into ill-health, and apparently died.

Two or three days after her decease the body was taken to Rosscarbery Cathedral, and there laid in the family vault of the Goodmans. The attempt of the sexton to recover a valuable diamond ring from the finger is said to have been made at an early hour the next morning. Much violence was used, so that the corpse moved, yawned, and sat up. The sexton having fled in terror, leaving his lantern behind and the church door open, the lady in her shroud made her way out of the vault and through the church to the residence of her brother-in-law, the Rev. Thomas Goodman, which was just outside the churchyard. Having been admitted, after some delay and consternation, she was put to bed, and fell asleep soon after, her brother-in-law and his man-servant keeping watch over her until midday, when she awoke refreshed. She is said to have shown herself in the village in the afternoon, to have supped with the family in the evening, and to have set out for home on horseback next morning. She is said to have survived this episode for some years, and to have borne a son subsequent to it, who died at an advanced age at Innishannon, a village near Bandon.

In Smith's "History of Cork," vol. ii., p. 428, the same incident is thus mentioned:—"Mr. John Goodman, of Cork, died in January, 1747, aged about fourscore; but what is remarkable of him, his mother was interred while she lay in a trance, having been buried in a vault, etc. . . . This Mr. Goodman was born some time after."

Mr. Peckard, Master of Magdalen College, Cambridge, in a work entitled "Further Observations on the Doctrine of an Intermediate State," mentions that Mrs. Godfrey, Mistress of the Jewel Office, and sister of the great Duke of Marlborough, is stated to have lain in a trance, apparently dead, for seven days, and was declared by her medical attendants to have been dead. Colonel Godfrey, her husband, would not allow her to be interred, or the body to be treated in the manner of a corpse; and on the eighth day she awoke, without any consciousness of her long insensibility.

The daughter of Henry Laurens, of South Carolina, the first President of the American Congress during the Revolutionary War, died when young of small-pox. At all events a medical certificate pronounced her dead, and she was shrouded and coffined for interment. It was customary in those days to confine the patient amidst red curtains with closed windows. After the certificate of death had been duly made out, the curtains were thrown back and the windows opened. The fresh air

revived the patient, who recovered and lived to a mature age. This circumstance occasioned on her father so powerful a dread of living interment that he directed by will that his body should be burnt, and enjoined on his children the performance of this wish as a sacred duty.

Bouchut, in his "Signes de la Mort," p. 58, relates that the physician of Queen Isabella of Spain was treating a man during a dangerous illness, and as he went to see his patient one morning he was informed by the assistants that the man had died. He entered, and found the body, in the habit of the Order of St. Francis, laid out upon a board. Nothing daunted, he had him put back to bed in spite of the ridicule of those present, and the patient soon revived and fully recovered.

The following cases are from Köppen (see Bibliography, 1799):—

Vienna, 1791.—A castle guard *(portier)* was in a trance for several days. His funeral was prepared, and he was placed in a coffin. All at once he unexpectedly opened his eyes and called out, "Mother, where is the coffee?"

Halle, 1753.—In the register of deaths at St. Mary's Church is the following entry:—"Shoemaker Casper Koch was buried, aged eighty-one years. Thirty years ago he had died, to all appearances, and was put in a coffin, when suddenly, when they were about to bury him, he recovered his consciousness."

Haag, Holland, 1785.—The son of a cook died, and while the coffin was being carried to the graveyard he was heard to knock. On opening the coffin he was found alive. He was taken home and was restored.

In the "Cyclopædia of Practical Medicine," edited by John Forbes, M.D., F.R.S., and others, 1847, vol. i., pp. 548, 549, is the following:—"A remarkable instance of resuscitation after apparent death occurred in France, in the neighbourhood of Douai, in the year 1745, and is related by Rigaudeaux *(Journal des Sçavans*, 1749*)*, to whom the case was confided. He was summoned in the morning to attend a woman in labour, at a distance of about a league. On his arrival he was informed that she had died in a convulsive fit two hours previously. The body was already prepared for interment, and on examination he could discover no indications of life. The os uteri was sufficiently dilated to enable him to turn the child and deliver by the feet. The child appeared to be dead also; but by persevering in the means of resuscitation for three hours they excited some signs of vitality, which encouraged them to proceed, and their endeavours were ultimately

crowned with complete success. Rigaudeaux again carefully examined the mother, and was confirmed in the belief of her death; but he found that, although she had been in that state for seven hours, her limbs retained their flexibility. Stimulants were applied in vain; he took his leave, recommending that the interment should be deferred until the flexibility was lost. At five p.m. a messenger came to inform him that she had revived at half-past three. The mother and child were both alive three years after."

APPENDIX B.

RESUSCITATION OF STILL-BORN AND OTHER INFANTS.

THE danger of premature burial of still-born (apparently dead) infants is clearly shown by the following quotation from Tidy's "Legal Medicine," part ii., page 253, from tables given on the authority of the *British and Foreign Medical Review*, No. ii., p. 235, based on eight millions of births. "It would appear that from one in eighteen to one in twenty births are still-born. Dr. Lever found that the proportion in his three thousand cases was one in eighteen. So notorious is it that a large number of these deaths could be averted that some legislation is urgently needed, requiring that still-borns, whose bodies weigh, say, not less than two pounds (the average weight about the sixth and seventh months at which children are viable), should not be buried without registration and a medical examination."

Many instances can be found in current medical literature of still-born infants that have been revived by artificial respiration. Such cases not infrequently revive without any means being employed for their resuscitation; but among the poor, who dispose of the new-born apparently dead in a hasty manner, they might be buried alive through carelessness. The use of mortuaries, where the seeming dead would be kept under observation until decomposition appears, would of course prevent such disasters.

Struve, in the essay cited in the Bibliography (1802), says:—

"All still-born children should be considered as only apparently dead, and the resuscitative process ought never to be neglected. Sometimes two hours or more will elapse before reanimation can be effected. An ingenious man-midwife, says Bruhier, was employed for several

hours in the revival of an apparently still-born child, and as his endeavours proved unavailing, he considered the subject really dead. Being, however, accidentally detained, he again turned his attention to the child, and by continuing the resuscitative method for some time it was unexpectedly restored to life" (p. 150).

The following is one of Struve's most striking cases:—

A Mr. E.—— called in 18—— to obtain a certificate of death for a still-born child of seven months' gestation. Arriving at the house, the doctor found the child laid upon a little straw and covered with a slight black shawl; this was one p.m., and the child had been there since five a.m. It was icy cold, and there was no heart sound nor respiration, but there was a slight muscular twitching over the region of the heart. The child was immersed in a hot bath and artificial respiration employed, but for twenty minutes the case seemed hopeless; then the eyes opened and after continued effort the respirations began, laborious and interrupted at first, then normal by degrees. The child was saved, and became an accomplished violinist.

The mortality and waste of infant life, particularly in large cities like Paris, London, Berlin, Vienna, and New York, is admitted by all investigators to be enormous. In France medical writers, in view of the small percentage of births to population, are waking up to the realisation that the State cannot afford the loss, and that, among other things, steps should be taken to resuscitate the still-born, so that none should be buried before unequivocal signs of death are manifested.[1] The premature abandonmen of the still-born among the poorer classes in crowded cities is only too probable. There are also cases recorded which show a corresponding risk to infants who have survived their birth:—

The *British Medical Journal*, January 21, 1871, p. 71, gives the following case, under the heading "Alive in a Coffin":—Stories of this kind are generally very apocryphal; but the following reaches us from an authentic source. A child narrowly escaped being buried alive last week in Manchester. The infant's father had died, and was to be buried in Ardwick Cemetery. The day before the burial the infant was taken ill, and apparently died. A certificate of death was procured from a surgeon's assistant who had seen the child, and, to save expense,

[1] During the five years ending 1895 the population of France, where of all European countries premature burial is most in vogue, has increased by only 133,819, or, leaving out the immigration of alien population, the increase is under 30,000. The population for all practical purposes may be regarded as stationary.

it was decided to place it in the same coffin with the father. This was done, and the next morning the bearers set off to the cemetery with their double burden; but before reaching the graveyard a cry was heard to issue from the coffin. The lid being removed, the infant was discovered alive and kicking. It was at once removed to a neighbour's house, but died eight hours afterwards.

The *British Medical Journal*, 1885, ii., p. 841, gives the following case, under the heading "Death or Coma?"

"The close similarity which is occasionally seen to connect the appearance of death with that of exhaustion following disease was lately illustrated in a somewhat striking manner. An infant seized with convulsions was supposed to have died about three weeks ago at Stamford Hill. After five days' interval, preparations were being made for its interment when, at the grave's mouth, a cry was heard to come from the coffin. The lid was taken off, and the child was found to be alive; it was taken home, and is recovering."

The following is from Tidy's "Legal Medicine," part. i, p. 29:—

"In a communication to the French Academy, Professor Fort mentions a child (*ætat.* three) having been resuscitated by artificial respiration continued for four hours, and not commenced until three and a half hours after its apparent decease.

"Ogston records one case of a child alive for seven hours, and a second case of a young woman alive for four hours, after they had been left as dead."

From the *Lancet*, April 22, 1882, p. 675:—

"PREMATURE INTERMENT.

"A daily contemporary states that at the gates of the Avignon cemetery the parents of a child, certified to have died of croup, insisted on having the coffin opened to take a last look. The child was found breathing, and is expected to be saved."

The following letter to the editor of the *Lancet*, March 31, 1866, p. 360, illustrates the danger to which infants believed to be dead are exposed under one of our traditional customs:—

"LAYING-OUT OF DEAD INFANTS.

"Sir,—In your journal of last Saturday, among the 'Medical Annotations,' you notice the inquiry into the circumstances under which an infant, being still living and moving, was 'bandaged' beneath the chin, and 'laid-out' at St. Pancras Workhouse. Allow me to state that in

the *Lancet*, vol. ii., 1850, a contribution from me 'On the Danger of Tying-up the Lower Jaw immediately after Supposed Death' was published. An infant, aged two months, was brought to me on a Friday with the lower jaw tied up by its mother, who asked for a certificate of death; but on my removing the bandage the child began to show symptoms of vitality, and it lived until the following Monday.

C. J. B. ALDIS, M.D., F.R.C.P.

"Chester Terrace, Chester Square, March 26, 1866."

It is recorded that Dr. Doddridge showed so little signs of life at his birth that he was laid aside as dead, but one of the attendants, observing some signs of life, took the baby under her charge, and by her judicious treatment perfectly restored it.

Mr. Highmore, Secretary of the London Lying-in Hospital, by a communication to the Royal Humane Society, April, 1816, confirmed the statement of Mrs. Catherine Widgen, the matron of that excellent establishment, that, by a zealous perseverance in the means recommended by that Society, she had been the happy instrument of restoring from a state of apparent death in the space of *three years* no less than forty-five infants, who, but for her humane attention and indefatigable exertions, must have been consigned to the grave. Later on, Mrs. Widgen restored in one year twenty-seven apparently dead-born children —a striking instance of the truth of the remark of a celebrated writer (Osiander) that "the generality of infants considered as still-born are only apparently so; if, therefore, persons would persevere in their exertions to revive them most of them might be restored."—"Report of the Royal Humane Society," 1816-17, pp. 52-54.

"For these exertions the General Court adjudged the Honorary Medallion to Mrs. Widgen, and it was accordingly presented to her by His Royal Highness the Duke of Kent."—*Ibid.*, p. 52.

[The question natuarally suggests itself in this place: If the matron of such a noble institution as the above was able to save seventy-two apparently dead children from the grave in four years, how many of these poor little beings are consigned to the grave all over the world for lack of the "humane attention and indefatigable exertions" such as this skilful matron gave to those that came under her intelligent care?]

"RECURRENCE OF SUSPENDED ANIMATION.

"A child, who had a cough for some time, was suddenly attacked with difficulty of breathing, and *to all appearances died.* A medical

gentleman immediately inflated the lungs, and by persisting in this for a considerable time recovered the child. A similar state of suspended animation took place three or four times, and inflation was as often had recourse to with the same success; but the attack happening, unfortunately, to recur whilst the medical gentleman in whose family the case happened was from home, the proper measures were not taken, and the child was lost."—*Ibid.*, p. 140.

"SHOCK FROM LIGHTNING.

"A boy was struck down by a flash of lightning near Hoxton (in the suburbs of London), and lay exposed to the rain at least an hour, until his companions carried him home on some boards, apparently dead—the body being stiff and universally cold, the fingers and toes contracted, and the countenance livid. He was stripped of his wet clothes, put in hot blankets, and bled twenty ounces. In half an hour interrupted respiration commenced, without inflating the lungs; in an hour more regular pulsation and breathing were established, together with power of swallowing; and in a week he was quite well."—*Ibid*, p. 147.

In the *Lancet*, 1884, vol. i., p. 922, W. Arnold Thomson, F.R.C.S.I., reports a case of resuscitation of a child delivered by the forceps, which was "apparently to myself [he says] and the nurse and relatives a perfectly dead child, and with no signs of respiration or life about it. . . My opinion was that the death was real and positive, but that, there being no actual disease present, and the blood still warm, the machinery of life was set going, and resuscitation followed as a consequence of suitable means being taken and persevered in without undue delay. In the future I do not intend to allow any still-born children to be put away without making strenuous efforts to restore vitality."

The *Lancet*, 1880, vol. ii., p. 582:—In a discussion at the Royal Medical and Chirurgical Society upon Artificial Respiration in New-born Children, Dr. Roper related three cases in which the child was left for dead. "One of these occurred in the practice of Mr. Brown, of St. Mary Axe. The child was still-born in the absence of a medical man. It was taken to the surgery, and thence to the late Mr. Solly, who next day, in dissecting the body, found that the heart was still beating. A second instance was of a fœtus of five months and a half, which was set aside as dead, Dr. Roper attending the mother, who was suffering from hæmorrhage. He was astonished next day to find that this immature child, which had lain on the floor for eleven hours through a

cold night, was breathing and its heart beating. . . ." Such examples show that the new-born have greater tenacity of life than is supposed.

The *Lancet*, 1881. vol. ii., page 430, under the heading of "The Burial of Still-born Infants," states that "Greater security for the due observance of these necessary regulations (the Births and Deaths Registration Act of 1874) for the burial of infants said to be still-born is urgently called for. It is constantly patent that the burial of deceased infants as still-born, if checked, is by no means prevented; and that the authorities of burial-grounds, by their laxity in carrying out the provisions of the Act, afford dangerous facilities for the concealment of crime, or negligence, and for a practice which threatens to impair the value of our birth and death registration statistics; for, if a live-born infant be buried as still-born, neither its birth nor its death is registered."

A case of forceps-delivery occurred in the hands of Dr. E. P. Vollum in which the child, when extracted, was quite purple in colour, and absolutely dead to all appearances—there was no breathing nor impulse to be found anywhere. After some efforts at resuscitation in the way of artificial respiration—not very thoroughly done, nor much prolonged (for the child was believed to be dead)—with a warm bath and frictions, it was laid aside and covered up. At a subsequent visit, some hours later, the child was found in the nurse's lap completely recovered, and changed in colour to a bright pink. The nurse said she did not like to give the little fellow up, and by breathing into his mouth for some time he showed returning life, and by keeping it up he soon began to breathe himself.

Cases like this are believed to be not infrequent, because physicians and nurses are not, as a general rule, aware of the great tenacity of life possessed by the new-born infant.

"*Still-births* are not registered in England; but, under the New Registration Act, no still-born child can be buried without a certificate from a registered practitioner in attendance, or a declaration from a midwife, to the effect that the child was still-born. The proportion of still-births in this country is supposed to be about four per cent., but this is uncertain."—A. Newsholme, "Vital Statistics," 1889, p. 61.

"The proportion of deaths from premature births, compared with the total number of births, in 1861-65 was 11·19 to 1,000 births: since which time it has steadily increased, reaching the ratio of 15·89 per births in 1,000 in 1887."—*Ibid*, p. 216.

The same author, p. 17, states that "a certain proportion of the

births remain unregistered (*a*). There is strong reason for thinking that a certain number of children born alive are buried as still-born."

The editor has repeatedly restored "still-born" children, in whom no signs of life were apparent, by vigorous and continued artificial respiration and friction. It is to be presumed that in the hands of midwives many such lives have been lost.

APPENDIX C.

RECOVERY OF THE DROWNED.

THIS is perhaps the best known and most generally appreciated occasion of rescuing the apparently dead. The high degree in which it has excited public sympathy will appear from a glance at that section of the Bibliography (towards the end of the eighteenth century) which gives the titles of essays and reports connected with the Royal Humane Society and the corresponding foreign institutions upon which our own was modelled. The following general remarks and cases are from the essay of Dr. Struve, of Görlitz, Lusatia, 1802:—

"A great number of persons apparently drowned have been restored to life without the use of stimulants, merely by the renovated susceptibility of irritation. I have collected thirty-six cases of persons apparently drowned in Lusatia from the year 1772 to the year 1792. Most of them were treated by uninformed people, and revived by friction and warming; two persons, however, were indebted for their lives to the continuation of the resuscitative process for several hours. The greatest number were children; which is to be ascribed not only to the greater danger to which they are exposed of drowning, but also to the longer continuance of vital power in the infant frame" (p. 136).

"A boy of about a year and a half old had lain upwards of a quarter of an hour in the water, and was found face downwards, and the whole body livid and swollen. He was undressed, wiped dry, and wrapped in warm blankets; but the most particular part of the process was rolling the body upon a table, shaking it by the shoulders, and rubbing the feet. This having been continued for an hour, a convulsive motion was observed in the toes; sneezing was excited by snuff; the tongue stimulated by strong vinegar; the throat irritated with a feather; an injection

given. The child vomited a large quantity of water, and in an hour afterwards began to breathe, and was completely restored to life." (p. 137).

"A woman upwards of thirty years of age, and who was affected with epilepsy, fell in a fit from a height of twenty feet into the water, where she remained a full quarter of an hour before she was taken out. Mr. Redlich, surgeon, of Hamburg, had her put into a bed warmed by hot bottles; she was rubbed with warm flannels, some spirits were dropped into her mouth, when in a quarter of an hour symptoms of life, such as convulsive motion and a very weak pulse, appeared. In three hours from the time she was taken out of the water she recovered completely." (p. 138).

Dr. Charles Londe, in a remarkable pamphlet (Lettre sur la Mort Apparente, les Conséquences Réelles des Inhumations Précipitées, et le Temps pendant lequel peut persister l'eptitude à être rapelé à la Vie." Paris, Bailliére, 1854), records some instances of narrow escapes from premature burial of the drowned, one of which may be cited :—

"On the 13th of July, 1829, about two p.m., near the Pont des Arts, Paris, a body, which appeared lifeless, was taken out of the river. It was that of a young man, twenty years of age, dark complexioned, and strongly built. The corpse was discoloured and cold; the face and lips swollen and tinged with blue; a thick and yellowish froth exuded from the mouth; the eyes were open, fixed, and motionless; the limbs limp and drooping. *No pulsation of the heart nor trace of respiration was perceptible.* The body had remained under water for a considerable time; the search for it, made in Dr. Bourgeois's presence, lasted fully twenty minutes. That gentleman did not hesitate to incur the derision of the lookers-on by proceeding to attempt the resuscitation of what, in their eyes, was a mere lump of clay. Nevertheless, several hours afterwards, the supposed corpse was restored to life, thanks to the obstinate perseverance of the doctor, who, although a strong man and enjoying robust health, was several times on the point of losing courage and abandoning the patient in despair. But what would have happened if Dr. Bourgeois, instead of persistently remaining stooping over the inanimate body, with watchful eye and *attentive ear*, to catch the first rustling of the heart, had left the drowned man, after half an hour's fruitless endeavour, as often happens? The unfortunate man would have been laid in the grave, *although capable of restoration to life!*"

To this case Dr. Bourgeois, in the "Archives de Medicine," adds others, in which individuals remained under water as long as SIX HOURS,

and were recalled to life by efforts which a weaker conviction than his own would have refrained from making. These facts lead Dr. Londe to the conclusion that *every day drowned individuals are buried who, with greater perseverance, might be restored to life!*

The following case in point appears in the *Sunnyside*, New York, communicated by J. W. Green, M.D.:—

"A few years since I was walking by the Central Park, near One Hundred and Tenth Street and Fifth Avenue. Noticing a crowd that was acting in an unusual manner by the side of the lake, I approached and inquired of one of the bystanders what was the cause of the excitement. He replied, 'A boy is drowned.' I advanced to the edge of the water, and saw two or three men in the water searching for the body. As they had not yet discovered it, I made enquiries, and found at last a small boy who had been a comrade of the victim. He showed me the spot from which the boy had fallen. I then pointed out to the searchers where to look, and immediately the body was recovered. I took it at once from the hands of the person who had it, and held it reversed, in order to disembarrass it of all the water possible, for a minute or two, then stripped it of its clothing, sent for a blanket and brandy. I took a woollen coat from one of the bystanders until the blanket should arrive, laid the child upon it and commenced to rotate it. This I continued to do for at least fifteen minutes by the watch. I then tried auscultation: no murmur could be heard.

"The skin was cold, the lips were blue. Every artery was still. With all these signs of death present it was still obligatory upon me to persevere. At the end of fifteen minutes there was a slight gasp. A small quantity of brandy was placed upon the tongue. A little of this ran into the larynx, and the stimulation was sufficient to produce a long inspiration and then a cough. This was more than a half-hour from the time when the boy had been removed from the water. Complete restoration did not occur until nearly an hour from that time. He was now given to his mother, and I was informed on the following day that he entirely recovered, without an unfavourable symptom."

The three following cases of resuscitation from apparent death by drowning are copied from the most recent reports of the Royal Humane Society, London:—

"On 13th of August, 1895, Samuel Lawrence, aged five years, while playing on the bank of a disused claypit at South Bank, Yorkshire, fell into the water and sank. Two of his companions dived into the water and brought him up, after a submersion of from seven to ten

minutes, in an unconscious state. Two working men commenced artificial respiration, and Dr. Steele continued it for ten hours before the boy showed signs of returning sensibility and his complete recovery."

"October 6th, 1895.—At Deptford, Surrey, a woman with a baby in her arms threw herself into the canal. They were rescued by the Royal Humane Society's drags. Two ladies took possession of the bodies (time of submersion not stated), and they employed Sylvester's system of artificial respiration with success, in the case of the woman in about one hour, and with the child one hour and a half."

"August 6th, 1895.—At Bradford, England, Rudolf Pratt, a clerk with Midland R.R. Company, was bathing, and sank in deep water. A bystander by diving brought him up. After a submersion of five minutes, unconscious, and not breathing, Dr. Oldham restored respiration by Sylvester's method after one and a half hour's treatment."

These three cases are instructive on account of the length of time animation remained suspended before it could be aroused to a state of activity; and they lead to the belief that many cases that are given up as actually dead could be saved if efforts at resuscitation were kept up for a lengthened period, as in the first case.

In cases of drowning some persons are quickly revived after a long submersion; others again, who are under water only a short time, require artificial respiration for a long time before they show signs of returning life, as was the case with Samuel Lawrence, who was submerged only ten minutes, yet required ten hours' active treatment to revive him.

APPENDIX D.

EMBALMING IN THE UNITED STATES.

THE *Casket*, Rochester, New York, September, 1896, observes:—At different times considerable opposition has been raised against embalming by Boards of Health and other officials in various localities, on account of the haste with which the embalmer proceeds with his duties. A few recent cases of supposed corpses recovering, one of which occurred in Philadelphia, Pa., have revived the question, and it is reported that the Philadelphia Board of Health may take action, looking to the enactment of a law prescribing the period of time which should elapse after death before a body should be embalmed.

In a recent issue of the Philadelphia *Times*, Funeral-Director John J. O'Rourke, a well-known professional of that city, expresses himself on the subject as follows:—

"These two narrow escapes from burial alive have further impressed me with one of the perils attending the disposition of the dead—I mean the danger of hasty embalming. As you know, in most cases the doctor who has had the patient is not called in after death, and very often the relatives of the deceased expect the undertaker, if embalming is to be done, to proceed with it at once. All the embalming schools teach that the only proper way to thus treat the body is by use of fluids through the arteries. But in the lectures on the subject no period that should be permitted to elapse before it is begun is prescribed, and, as a rule, it follows dissolution as quickly as possible.

"I contend that there should be some law or official rule governing the matter, because after the artery is punctured and the fluid goes through the whole body it is sure to destroy any spark of life that might remain. I have never met with any cases of resuscitation myself, but have had instances of deaths that made me hesitate in the work of embalming. Some months ago a man came to me fifteen minutes after a relative had breathed his last and asked me to embalm the body. I went to the house, and, after seeing the corpse, refused, saying that I would not do it until after the expiration of twelve hours. The man had died of consumption, yet, for fear of it being a case of suspended animation, I would take no chances.

"At another time a person had died of dropsy. Within half an hour I was summoned. The attending physician had not been there, and twenty-four hours afterwards he gave a certificate of death from cancer. The body was very warm when I arrived, and neighbours who had kindly volunteered to prepare it were doubtful if life was extinct. I had the corpse laid on an embalming table for two hours, and then placed it in what is known as a Saratoga patent box, in which are pans filled with salted ice, so arranged that cold air circulates around the body. Had this been a case of suspended animation, it would have taken several hours to dispel the heat within the corpse.

"Of course there are some supposed unmistakable signs. The only positive signs of dissolution are those which depend on molecular change or death-rigidity of the muscles of the whole body, and putrefaction of the tissues. These are most marked in organs and tissues the vital functions of which are the most active. The action of the heart, the movements of respiration, may be reduced as to be altogether imper-

ceptible, so that the functions of circulation and respiration appear to be arrested. This is occasionally observed in temporary syncope, in which a person, to all appearances dead, has after a time regained consciousness and recovered.

"The peculiar condition of the nervous system called catalepsy, and the state of trance, are likewise further examples of the so-called apparent deaths; but on the occurrence of actual death the irritability of the muscles by degrees disappears, electricity no longer excites their contraction, and then cadaverous rigidity sets in. . . . Some action will, in all probability, be urged upon the next Legislature, or upon the Board of Health."

A Scottish Incident.

The following letter from the editor of the *Northern Herald*, directed to a valued correspondent, has been received just as we are going to press:—

"Wick, September 9, 1904.

"Dear Sir,

"In connection with the question of Premature Burial, permit me to bring under your notice a case which has just been reported to me.

"Quite recently an old woman died in Ross-shire, or, at any rate, was pronounced to be dead by a doctor. A relative of mine was asked to 'dress' the body. She, with the assistance of a neighbour woman, undertook the job, and were busy carrying out the last offices of respect, when the corpse said, 'Oh, I am very faint. Can you give me a draw of the pipe?' It appears that the old lady was in the habit of smoking a pipe. Both the dressers got such a fright that they ran, as it were, for dear life, out of the house of the 'dead.' One of them every now and then is seized with a fit of laughter. So much so, that she has lost control of herself, and has to adjourn to a retired place to let the fit run its course.

"The medical man who had declared the old lady to be no more wired a relative of the fact; but, when he learned that his patient was 'resurrected,' he had to cancel the message.

"I thought this narrative would interest you, and beg to forward it.

"Yours faithfully,

"A. M. Ross.

"H. N. Mosley, Esq., M.A."

APPENDIX E.

SUMMARY OF ORDINANCES, ETC., RELATING TO THE INSPECTION OF CORPSES AND OF INTERMENTS.

In the sixteenth Council of Milan, Saint Charles Borromeo prohibited burials before twelve hours after ordinary cases of death, and twenty-four hours after cases of sudden death. As early as the sixteenth century serious attention in the examination of the dead was made obligatory by the enactment of Article 149 of the Criminal Statutes of Charles the Fifth. This was the foundation of legal medicine in Germany. In France, a similar ordinance was first established in 1789.

Netherlands.

Act of April 10th, 1869.

No burial is allowed without the written permission of the Civil Recorder, granted upon the production of a certificate of a qualified physician, and not until thirty-six hours have elapsed after death, nor later than the fifth day after death. But this regulation can be set aside, and a longer period allowed, by the burgomaster, on the application of a doctor.

Dead-houses are in use for bodies dead of infectious diseases.

Frankfort-on-the-Main.

Death must first be established by a licensed physician, who carefully examines the body for that purpose, and, if satisfied, then issues a certificate which states the name, age, sex, place, and date, and immediate cause of death. The certificate is taken within twenty-four hours after the death to the Standesamt, where the death is recorded, and a certificate to that effect is given, and presented to the Cemetery Commission, which assigns the place of burial. The corpse is required to remain unburied three days, either at the place of death or at the mortuary, where it is under the observation of attendants; but there is no State-appointed inspector of the dead, nor electric bells or other means for announcing and recording any movements of the body. The system of inspection and certification by qualified physicians, with the delay of three days, and the favourable condition of the dead-houses, have been the means of preventing the living from being mistaken for the dead in a number of cases.

FRANCE.

Interments must not take place, according to Article 77 of the Code Napoleon, before twenty-four hours of death, but in practice it is twenty-four hours after death notification by the *mort-verificateur*. During epidemics, or when deaths occur from infectious or contagious diseases, the interments must invariably be made within twenty-four hours of death.

Article 77 of the Civil Code states that "No burial shall take place without an authorisation, on free paper and without expense, of the officer of the civil state, who will not be empowered to deliver it, unless after having visited the deceased person, nor unless twenty-four hours after the decease, except in cases provided for by the regulations of the police." It results from this that no corpse can be buried before a minimum delay of twenty-four hours shall have expired after the decease. The formal record of the decease must be made by the officer of the civil state (the mayor), or, which is what takes place in most of the communes, by a medical man delegated by the mayor, and who takes the title of medical officer of the civil state.

The Article 77 of the Civil Code is generally strictly observed in Paris and in other cities of France. The obligation to await the delay of twenty-four hours is intended to prevent too hasty burials. One considers, in fact, that that delay is generally necessary in order to be able to have certain proofs of death.

By Article 358 of the Penal Code, the burial of a deceased person without such authorisation is punishable by a maximum period of two months' imprisonment, and a maximum fine of fifty francs, without prejudice to other criminal proceedings which may be applicable under the circumstances.

Exceptions, however, have been established in certain cases. For example, in times of epidemics, or of too rapid decomposition of the corpse in the usual case, there is urgent need, in fact, to bury the body of a person attacked with a contagious or epidemic malady, in order to suppress one of the causes of propagation of the epidemic, or of the contagion. In the second case, it is understood that one could not keep longer, without danger to the public health, a corpse in complete putrefaction. There is occasion also to observe that, in these circumstances, the end which the legislator has proposed to himself is equally obtained, since there cannot be any doubt as to the real death. However that may be, it is the mayor (officer of the civil state) to whom it appertains, according to the terms of the Article 77 of the Civil Code,

to give authority to bury; and if he gives that authorisation before the expiration of the delay of twenty-four hours, it is after having established by himself, or by the medical officer of the civil state, the fact of its necessity, resulting from the circumstances of which we have just spoken.

It is to be remarked that the Article 77 fixes a *minimum* and *not a maximum* delay. It is always the mayor to whom it appertains to fix the day and the hour of the burial, and there may happen such and such a circumstance which necessitates a delay of the obsequies. The mayor need only assure himself in that case that no danger will result to the public health, which naturally is the case when the corpse is embalmed, or is placed in a leaden coffin.

Outside Paris and other large cities, and especially in the rural districts, much laxity prevails both as to verification of death and the time of burial, and cases of premature burial are not infrequent.

Austria.

The laws relative to funerals and burials are very strict—perhaps the most thorough in their requirements of any in Europe. They provide for a very careful inspection of the body by medical inspectors, quite independently of the attending physicians, in order to ascertain if the death be absolute. Minute and specific official directions guide them as to the method of examination and the signs of death to be looked for. And they further provide for carrying out any particular method, as to which the deceased may have given directions, in order to prevent a possible revival in the coffin. Should the surviving relatives desire it, a *post-mortem* operation may be made upon the body, in the presence of the medical inspectors and the police; in which case the heart is pierced through; and a full report of the operations must be forwarded to the civic magistrate. A fee of six florins is allowed for such an operation.

City of Vienna.

Every death is to be inquired into by the municipal physician. The first of five objects is to ascertain whether the person be really dead. In examining whether there are any remaining indications of life, he will rely not upon any one sign, nor even upon putrefaction, but upon the totality of the signs of death. If there are any indications of life remaining, he must at once institute the means of resuscitation approved by science, and continue them until such time as the family medical attendant is assured of their uselessness. If there be any doubt as to

the reality of the death, a second inspection of the body is to be made by the municipal physician within twenty-four hours. Burial, as a rule, is not to be until forty-eight hours after death; but the interval may be shortened in cases of infectious diseases or of unusually rapid decomposition.

Province of Dalmatia.

Vice-Governor's Order of 29th April, 1894.

Every death to be inquired into by the parish physician, or a deputy appointed by the mayor. The first of six objects of the inquest is to ascertain whether the person be really dead. In the event of a non-medical examiner discovering signs of life, he is to send for a doctor. Inasmuch as decomposition, the only sure sign of death, is, as a rule, a phenomenon of later occurrence than the time appointed for the inquest (within twelve hours of the notification of death), the examining person must base his certainty of the extinction of life, not upon one sign, but upon the totality of the signs of death.

Kingdom of Saxony.

Law of 20th July, 1850.

The burial of a corpse must not take place until seventy-two hours after death, and the signs of decomposition are clearly visible. Any proposed departure from this rule, in the event of earlier putrefaction, or the absence of decomposition at the end of seventy-two hours, requires the authority of a physician called in. By the above Law the following Orders are suspended: (1) the Order of 11th February, 1792, concerning the treatment of the dead, and the precautions necessary to prevent the apparently dead from being buried prematurely: (2) the General Order of 13th February, 1801, concerning precautionary measures in the burial of those dead of infectious diseases; (3) the Law of 22nd June, 1841, together with the Administrative Orders concerning the examination of corpses and the establishment of mortuaries.

City of Munich.

Order of 30th October, 1848.

The ordinance hitherto in force, as to making an incision in the sole of the foot in cases of patients who die in the hospitals, is abolished: the hospital physicians to use their discretion whether or not the incision should be made; but, in cases for which is demanded an earlier burial than is usually prescribed, whether they have been hospital or private

patients, the incision is to be made in the sole of the foot at the end of the second inspection, and every other means taken to ascertain whether the death be apparent or real.

Calcutta.

1. The prevailing custom for Christians and Mahomedans is to bury the dead. The Hindoos burn them as a rule, but many prefer to throw them into a sacred river, particularly the Ganges or its tributaries, if they can do so unmolested by the authorities.

2. There are no mortuaries. The signs which are assumed to indicate death are the various conditions and appearances when animation is suspended.

3. Cases of revival from supposed death are sometimes heard of among the Hindoos, who regard such persons as outcasts. If the signs of returning life are not very manifest when a person begins to revive, he is sometimes killed by stuffing the mouth and nose with mud, which generally accomplishes the object.

Bombay.

1. There are no laws or regulations in India for the disposal of the dead. The customs and formalities follow the traditions and requirements of religious belief.

a. The Hindoos burn their dead immediately after death takes place.

b. The Parsees take their dead to a "Tower of Silence" as soon as death takes place, and, after certain prescribed ceremonies, the body is speedily devoured by vultures.

c. The Europeans and Mahomedans bury their dead within from twenty-four to forty-eight hours, because putrefaction usually sets in soon after death on account of the heat and humidity of the climate.

2. There are no mortuaries, excepting in connection with hospitals, where observations can be made.

Cape Town, Africa.

1. There are no laws nor regulations relative to the disposal of the dead, excepting in cases requiring an inquest or *post-mortem* examination. The custom is to bury within twenty-four to thirty hours after death, but the time is sometimes extended to two or three days.

2. There are no dead-houses, except at the hospitals, which are under the management of the superintendent.

3. The certificate of the medical attendant is sufficient for burial purposes. The complete cessation of respiration and the heart's action are considered an absolute indication of death. When decomposition sets in, it usually appears within twenty-four hours after death, although in winter that process may be longer delayed.

Moscow.

Orthodox Russians keep their dead three days before burial. During that time the body lies with the face uncovered, and a deacon chants and prays over it twice a day. A medical certificate of death is imperative before burial.

Brussels.

Burials are regulated by the Communal Council in accordance with law. The system is complicated, but thorough. The medical men connected with the Government Medical Service ("Doctors of the Civil Government") have the sole control of the examinations of deaths, as well as births, accidents, sudden deaths, suicides; and attend to burials, autopsies, postponements of burials, etc., on their own motion. Interments usually take place within forty-eight hours of death, but they may be carried out sooner during epidemics for the public safety.

There are mortuaries in the city and suburbs, to which bodies may be taken at the request of surviving relatives, or by the order of the health authorities, according to private necessities or for the public safety. Except by the special authorisation of the officers of the civil government, bodies cannot remain in the mortuaries longer than forty-eight hours; and a burial cannot take place in less than twenty-four hours. Special care is taken to test the reality of death in still-born infants, and efforts are made to revive them, as well as all other cases of seeming death. In cases of women dying during advanced pregnancy, the infant must be roused by artificial respiration, in order to restore animation if possible. The process for obtaining a delay for burial is intricate and cumbersome, and to a foreigner unaccustomed to the language and the local usages the chances would be against securing such a permit before the time allowed for burial had expired.

Denmark.

Mortuaries are connected with all the churches, cemeteries, and some of the hospitals, and are growing in favour in the country places:

but as yet they are unprovided with any appliances for the resuscitation of the apparently dead, or for the prevention of premature burials. No corpse, however, is allowed to be taken to a mortuary before it has been inspected, and a death-certificate issued by a qualified physician: but, when this is done, death is considered absolute. No corpse is allowed to remain in any church, chapel, or mortuary longer than seven days after supposed death, without special permission. Coffins that contain bodies which have died from infectious diseases must be so indicated, and cannot be opened in the mortuaries.

As a rule, bodies are kept seventy-two hours before burial. The signs that are considered sufficient to establish death are the glazed appearance of the eyes, livid spots on the skin, and muscular rigidity. In doubtful cases the time before burial can be extended by authority of the Board of Health, of which the Police Director is a member.

Spain.

Burials usually do not take place until twenty-four hours after death. For example, if a death takes place about four p.m., the burial is made late in the following afternoon. In time of epidemic bodies are hurried to the cemeteries, where depositories are provided, which are under the care of watchers until the expiration of twenty-four hours after death. The certificate of a reputable physician as to death is sufficient to authorise burial. Relatives or friends usually remain with the body until burial, excepting in cases when judicial proceedings are held over it to determine the circumstances of the death.

Ireland.

There are no laws in Ireland regarding the disposal of the dead, but the Sanitary Acts of the United Kingdom can be applied in any case within a reasonable period, on the ground of public health. There is no fixed period for keeping a body before burial. The Roman Catholics usually bury on the third or fourth day after death: but in some districts custom sanctions burial within twenty-four or thirty-six hours. Local burial authorities sometimes require a medical certificate before burial, but, there being no legal obligation for it, this is often omitted. In cases of suicide, sudden death, or death by violence, the coroner holds an inquest, and gives a certificate accordingly.

There are no dead-houses in Ireland, where bodies may be observed for a period of time before burial.

Concerning burials in England, see Glen's "Burial Acts" for the general burial practice; also "Regulations for Wilton Cemetery."

The United States.

In the United States of America, as a rule, everything relative to the disposal of the dead is regulated by local Boards of Health, as authorised by State laws. A burial cannot take place without a certificate from a legally licensed physician, which must state the cause of death; the place and time when it occurred; the full name, age, sex, colour, occupation, birthplace; names and birthplaces of both parents. There are no laws or regulations that require the inspection of the body to verify the fact of death (the certificate, as in England, as to the cause is considered sufficient for this purpose), and no time is fixed when a body must or must not be buried. This is regulated by and left to the convenience of the family of the deceased, by the season of the year, by the opinion of the attending physician, etc. But the health officers can order the burial whenever, in their opinion, the public health requires it. As a rule, burials after supposed death are made sooner in the South, and among the poor, than in the North, and among the well-to-do classes. In remote unsettled regions burials not seldom take place without these formalities, and they are often carried out in a hasty manner; but usually they do not take place till three days after supposed death, and sometimes, particularly in cold weather, a longer time is allowed. All large cemeteries have chambers for the temporary deposit of bodies, but they are not under observation, as it is taken for granted that they are dead.

Switzerland.

The Swiss legislation relating to burials is committed to the authority of the several cantons. The death is verified by a physician or an official person appointed for that purpose. The minimum time allowed between death and interment is fixed by each canton. In five cantons the time limit is twenty-four hours; in one it is fixed at thirty-two hours; in two at thirty-six hours; in fourteen cantons the period is four days; and in one it is six days. In some cantons the period of waiting is extended during winter time; and in some instances—cases of swoon, apoplexy, etc.—a further extension of time is ordered. In the majority of cantons it is expressly forbidden to close the coffin until immediately before the departure of the coffin.

APPENDIX F.

THE JEWISH PRACTICE OF EARLY BURIAL.

R. J. WUNDERBAR, in his standard work on "Biblisch-talmudische Medicin," Riga and Leipzig, 1850-60, gives, in pp. 5-15 of the concluding section (Abtheil. 4, Bd. ii.), the following summary of the origin of the peculiar Jewish practice of burying the corpse within a few hours of death:—

In the Levitical law (Num. xix. 11-22) every dead body was an unclean thing, including those dead in the tent and on the battlefield. Touching a corpse involved purification and separation for seven days. This ordinance is supposed to have had a sanitary motive, having probably originated with cases of infectious disease. There is only one Biblical ordinance as to early burial, and that is indubitably restricted to persons executed for crime: Deut. xxi. 22, 23, "And if a man have committed a sin worthy of death, and he be put to death, and thou hang him on a tree, his body shall not remain all night upon the tree, but thou shalt in any wise bury him that day (for he that is hanged is accursed of God), that thy land be not defiled, which the Lord thy God giveth thee for an inheritance." This statutory limit to the exposure of the bodies of malefactors was the most convenient way of checking the practice, common in other countries, of leaving corpses of criminals to hang upon the gibbet until they rotted or were consumed by birds of prey. Its motive was to prevent, by the promptest measure, an indefinite degree of neglect in altogether special cases.

There is nothing else in the Bible concerning early burial; on the contrary, the patriarchal practice, in the case of eminent persons, seems to have been to keep the body for a considerable time above ground, after the manner of Egypt. Prior to the Babylonian exile there is not a trace of the later practice of speedy burial. The post-Talmudic custom had arisen entirely from a misunderstanding. It is true that the Talmud enjoins that corpses—according to circumstances—be kept unburied not longer than one day; but it also permits them to lie above ground for days, so that elaborate funeral preparations might be made, or time given for mourners to arrive from a distance. Lastly, the Talmud relates the burial of one apparently dead, who revived and lived for twenty-five years, and begat five children; whereupon a rabbinical ordinance was made that the corpse (which would have been laid in a vault or in a tomb

above ground) should be visited diligently until three days after death. (The references to the Talmud are: Semachoth 8; Moedkaton 1, 6: Sabbat 151, 152; Sanhedrin, 46a.)

Wunderbar admits that there had been cases of premature burial among the Jews, but he asserts their extreme rarity, and doubts the authenticity of most of the traditional or historical cases in general.

In Jewish circles in Germany, towards the end of the 18th century, there was much controversy as to the inexpediency of the practice of early burial. In the *Berlinische Monatschrift* for April, 1787, p. 329, (cited by Marcus Herz, "Ueber die frühe Beerdigung der Juden," Berlin, 1788, p. 6), there is printed a letter from Moses Mendelssohn to the Jews of Mecklenburg, in which he advises them to keep their dead unburied for three days. "I know well," he adds, "that you will not follow my advice; for the might of custom is great. Nay, I shall perhaps appear to you as a heretic on account of my counsel. All the same, I have freed my conscience from guilt."

The above-cited essay by Dr. Marcus Herz, of Berlin, arguing against the Jewish practice, called forth a reply by Dr. Marz, of Hanover, who was of opinion that the burial might safely proceed after the body had been left on the bed for three hours, and had then been pronounced lifeless by the medical attendant, according to the practice in that part of the country. To that Dr. Herz rejoined, in a second edition, that the medical attendant was no better judge than an ordinary man, inasmuch as all experimental tests were fallacious, and decomposition the only sure sign. He cites the following statement by an experienced Jewish physician, Dr. Hirschberg, of Königsberg (from the Jewish periodical *Sammler*, vol. ii., p. 153): — "I have practised medicine for forty years, and have always grieved over the practice amongst us of too hasty burial of the dead—on the day of decease. It happened once in my practice that a woman lay for dead three days and then awoke and revived. At first I would not allow the body to be moved from the bed, but the undertaker's men violently resisted me, taking up the body and laying it on the ground. According to their custom, they would have buried it the same day, had I not earnestly called out to them: 'Beware lest you do lay her in the ground this day! She is still alive, and the blame will be on you.' I had her covered with warm, woollen clothes; on the following morning some signs of life were manifest; she lay still, and gradually awoke out of her death-slumber."

Herz declared, as Wunderbar did subsequently, that the passages in

the Talmud on which the Jewish custom was based had been misinterpreted: and he specially accused the rabbis Jacob Emden, of Altona, and Ezechel, of Prague, of rabbinical subtilty on the one hand, and of a fallacious dependence upon scientific signs of death on the other.

At the World's Medical Congress (Division of Eclectic Medicine), held in Chicago, July 3, 1893, the following resolution was proposed by Dr. John V. Stevens, and adopted:—

"Whereas we believe that many persons in the past, in the condition simulating death from various causes, have been buried alive: therefore,

"Resolved—That it should be the duty of all Governments to pass laws prohibiting the burial of bodies without positive proofs of death; that the nature of these proofs should be taught in all schools and printed in all newspapers throughout the world."

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Premature Burial: a Reply to Dr. David Walsh, by WILLIAM TEBB. 8pp.

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